

Historic, archived document

Do not assume content reflects current scientific knowledge, policies, or practices.

U. S. DEPARTMENT OF AGRICULTURE
BUREAU OF PLANT INDUSTRY—BULLETIN NO. 69.

B. T. GALLOWAY, *Chief of Bureau.*

AMERICAN VARIETIES OF LETTUCE.

BY

W. W. TRACY, JR., ASSISTANT, VARIETY TRIALS.

BOTANICAL INVESTIGATIONS AND EXPERIMENTS.

ISSUED DECEMBER 23, 1904.



WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1904.

BUREAU OF PLANT INDUSTRY.

B. T. GALLOWAY,
Pathologist and Physiologist, and Chief of Bureau.

VEGETABLE PATHOLOGICAL AND PHYSIOLOGICAL INVESTIGATIONS.

ALBERT F. WOODS, *Pathologist and Physiologist in Charge, Acting Chief of Bureau in Absence of Chief.*

BOTANICAL INVESTIGATIONS AND EXPERIMENTS.

FREDERICK V. COVILLE, *Botanist in Charge.*

GRASS AND FORAGE PLANT INVESTIGATIONS.

W. J. SPILLMAN, *Agrostologist in Charge.*

POMOLOGICAL INVESTIGATIONS.

G. B. BRACKETT, *Pomologist in Charge.*

SEED AND PLANT INTRODUCTION AND DISTRIBUTION.

A. J. PIETERS, *Botanist in Charge.*

ARLINGTON EXPERIMENTAL FARM.

L. C. CORBETT, *Horticulturist in Charge.*

EXPERIMENTAL GARDENS AND GROUNDS.

E. M. BYRNES, *Superintendent.*

J. E. ROCKWELL, *Editor.*

JAMES E. JONES, *Chief Clerk.*

BOTANICAL INVESTIGATIONS AND EXPERIMENTS.

SCIENTIFIC STAFF.

FREDERICK V. COVILLE, *Botanist.*

O. F. COOK, *Botanist in Charge of Investigations in Tropical Agriculture.*

RODNEY H. TRUE, *Physiologist, Drug and Medicinal Plant Investigations.*

LYSTER H. DEWEY, *Botanist in Charge of Investigations of Fiber Plants.*

EDGAR BROWN, *Botanist in Charge of Seed Laboratory.*

CARL S. SCOFIELD, *Botanist in Charge of Grain Grade Investigations.*

G. N. COLLINS, *Assistant Botanist, Tropical Agriculture.*

A. C. CRAWFORD, *Pharmacologist, Poisonous Plant Investigations.*

WILLIAM E. SAFFORD, *Assistant Curator, Tropical Agriculture.*

F. H. HILLMAN, *Assistant Botanist, Seed Herbarium.*

J. W. T. DUVEL, *Assistant, Seed Laboratory.*

W. W. TRACY, JR., *Assistant, Variety Trials.*

W. F. WIGHT, *Assistant, Geographic Botany.*

W. O. RICHTMANN, *Pharmacognostical Expert.*

ALICE HENKEL, *Assistant, Drug and Medicinal Plant Investigations.*

W. W. STOCKBERGER, *Expert, Drug and Medicinal Plant Investigations.*

LETTER OF TRANSMITTAL.

U. S. DEPARTMENT OF AGRICULTURE,
BUREAU OF PLANT INDUSTRY,
OFFICE OF THE CHIEF,
Washington, D. C., July 22, 1904.

SIR: I have the honor to transmit herewith, and to recommend for publication as Bulletin No. 69 of the series of this Bureau, the accompanying manuscript entitled "American Varieties of Lettuce." This paper was prepared by W. W. Tracy, jr., Assistant in Botanical Investigations and Experiments, and has been submitted by the Botanist with a view to its publication.

The twenty-seven half-tone plates illustrating the varieties are necessary to a complete understanding of the text of this bulletin.

Respectfully,

B. T. GALLOWAY,
Chief of Bureau.

Hon. JAMES WILSON,
Secretary of Agriculture.

PREFACE

For an experimental horticulturist, perhaps no knowledge is more fundamental than that of the characteristics of the plant varieties with which he is dealing, yet for most kinds of garden and field vegetables it is impossible to get this information in authoritative printed form. There is such looseness of nomenclatorial practice, and such inadequacy of description regarding the varieties of vegetables, that growers, especially owners of private gardens, have much difficulty in getting the varieties best suited to their purposes. The lettuce variety known as Tennis Ball Black-Seeded is advertised by seedsmen under thirty-seven different names.

In Bulletin No. 21 of the Bureau of Plant Industry, entitled "List of American Varieties of Vegetables for the Years 1901 and 1902," were given about five thousand names of varieties of vegetables offered for sale in those years in American seed catalogues. No attempt was made to say which of these varieties were identical and which were in reality distinct, except where synonyms were given in the catalogues themselves. It had already been determined, however, to take up the various kinds of vegetables one by one and, after a careful series of trials, to publish the results, with descriptions and synonyms. Lettuce is the first vegetable to which this critical study has been given. It will be of interest, therefore, to record a statement regarding those features of the method pursued in the investigation which are novel as applied to this class of objects.

The main idea was to apply to a horticultural subject the methods of systematic botany. The particular features of this application may be itemized as follows:

1. The descriptive terms used have been defined with precision. Where a verbal description is insufficient to convey an exact idea of form, such as the degree of curliness of leaves, reference is made to an illustration. When it is desired to designate a particular kind of green color, reference is made to a well-known variety of lettuce which exhibits that color.

2. In addition to an outline of classification intended to show the relationship of the varieties, an artificial key has been given, arranged on the convenient dichotomous system and making use of the most conspicuous characters, by which the identification of varieties is very greatly facilitated.

3. The varieties sufficiently different to be distinguishable by their form have been illustrated from photographs. A picture of the differences thus brought out could be conveyed by no amount of verbal description alone.

The groundwork upon which these botanical methods were applied was that of long experience and modern training in horticultural procedure, and intimate familiarity with the plants themselves.

Tentative trials were made in the years 1897, 1898, and 1899, and extensive trials were conducted in each of the four years from 1900 to 1903. Altogether 2,934 samples of lettuce seeds were secured, chiefly by purchase from seedsmen, and grown in the trials. These samples represented 444 variety names recognized by American seedsmen. The trials were conducted under Mr. Tracy's immediate direction from 1897 to 1899, at Kensington, Md., and in the succeeding years on the Potomac Flats at Washington. In addition, Mr. Tracy visited the extensive trial grounds maintained by five large seed houses, as well as seven seed farms in California, where lettuce seed is grown.

Mr. Tracy concludes that of the 404 varieties named in seedsmen's catalogues 107 represent really distinct varieties, while the others are merely these same varieties under different names. In adopting a single name for a much-named variety, the most suitable of the trade names has been chosen. No new names have been proposed by the author, even when the best of the trade names is long and cumbersome.

FREDERICK V. COVILLE,
Botanist.

OFFICE OF BOTANICAL INVESTIGATIONS AND EXPERIMENTS,
Washington, D. C., June 11, 1904.

CONTENTS.

	Page.
Introduction	9
Varieties and their description	9
Nomenclature	9
Environment and selection	10
Source of seed	11
Cultural peculiarities	11
Terms used in description	12
Classes	12
Size	13
Maturity	14
Shooting to seed	14
Habit	15
Leaves	16
Color	18
Seeds	18
Seedling plants	19
Varieties suited to different conditions and requirements	19
Table of varieties	21
Classification of varieties	23
Key to varieties	24
Description of varieties classed as distinct	28
Catalogue of variety names	80

ILLUSTRATIONS.

TYPICAL MATURE PLANTS.

	Page.
PLATE I. Fig. 1.—Black-Seeded Simpson. Fig. 2.—Hanson	104
II. Fig. 1.—Tyrolese. Fig. 2.—Golden Heart	104
III. Fig. 1.—Green-Fringed. Fig. 2.—Bath Cos	104
IV. Fig. 1.—American Gathering. Fig. 2.—Early Curled Simpson	104
V. Fig. 1.—Big Boston. Fig. 2.—Prize Head	104
VI. Fig. 1.—Onondaga. Fig. 2.—Grand Rapids	104
VII. Fig. 1.—Density. Fig. 2.—Boston Curled. Fig. 3.—Mignonette. Fig. 4.—White Forcing	104
VIII. Fig. 1.—Earliest Cutting. Fig. 2.—California Cream Butter	104
IX. Fig. 1.—Emperor William. Fig. 2.—Yellow Winter. Fig. 3.—Detroit Market Gardener's Forcing	104
X. Fig. 1.—Hubbard's Market. Fig. 2.—Deacon	104
XI. Fig. 1.—Maximum (upper view). Fig. 2.—Maximum (side view)	104
XII. Fig. 1.—Malta. Fig. 2.—Italian Ice	104
XIII. Fig. 1.—Red Besson. Fig. 2.—Asparagus Lobed-Leaved	104
XIV. Fig. 1.—Asparagus. Fig. 2.—Red Winter Cos	104
XV. Fig. 1.—Lancaster. Fig. 2.—Express Cos. Fig. 3.—Baltimore Oak-Leaved	104
XVI. Fig. 1.—Oak-Leaved. Fig. 2.—Tom Thumb. Fig. 3.—Reichner	104
XVII. Sugar Loaf	104
XVIII. Fig. 1.—Half Century. Fig. 2.—Speckled Dutch Butter. Fig. 3.—Mette's Forcing	104

TYPICAL MATURE PLANTS (LONGITUDINAL SECTIONS).

XIX. Fig. 1.—Tom Thumb. Fig. 2.—Mette's Forcing. Fig. 3.—Paris White Cos. Fig. 4.—Lancaster. Fig. 5.—Hartford Bronzed Head	104
XX. Fig. 1.—Speckled Dutch Butter. Fig. 2.—Matador. Fig. 3.—Hanson	104
XXI. Fig. 1.—Prize Head. Fig. 2.—White Star	104

TYPICAL YOUNG PLANTS.

XXII. Fig. 1.—Nansen. Fig. 2.—Tomhannock. Fig. 3.—Big Boston. Fig. 4.—Hanson. Fig. 5.—All Seasons. Fig. 6.—Passion	104
--	-----

TYPICAL OUTER LEAVES.

XXIII. Fig. 1.—Boston Curled. Fig. 2.—Green-Fringed. Fig. 3.—Earliest Cutting. Fig. 4.—Speckled Dutch Butter. Fig. 5.—Tennis Ball Black-Seeded. Fig. 6.—Deacon	104
XXIV. Fig. 1.—Lancaster (back view). Fig. 2.—Lancaster (front view). Fig. 3.—Oak-Leaved. Fig. 4.—Yellow Winter. Fig. 5.—Baltimore Oak-Leaved. Fig. 6.—Big Boston	104
XXV. Fig. 1.—Early Curled Simpson. Fig. 2.—Giant Glacier. Fig. 3.—Grand Rapids	104
XXVI. Fig. 1.—Denver Market. Fig. 2.—Asparagus Lobed-Leaved and Express Cos. Fig. 3.—Hanson	104
XXVII. Fig. 1.—Asparagus. Fig. 2.—Bath Cos. Fig. 3.—Paris White Cos. Fig. 4.—Giant White Cos. Fig. 5.—Red Winter Cos	104

AMERICAN VARIETIES OF LETTUCE.

INTRODUCTION.

Lettuce is our most important salad plant and one of the most varied of our cultivated vegetables. In this country alone it is listed under more than three hundred varietal names and represents more than a hundred really distinct varieties. Being in demand at all seasons of the year, it is probably grown under more varied outdoor and indoor conditions than any other vegetable. Five hundred acres, producing about 250,000 pounds of seed, are planted in California every year for seed alone. More than 8,000 pounds of one variety have been used in a single year by one American seed house.

VARIETIES AND THEIR DESCRIPTION.

In order to form a basis for a classification and description of American cultivated varieties it becomes necessary to decide several questions as to the proper use of names and the right methods of work. The following are the methods and terms adopted by the Department of Agriculture in conducting lettuce trials and making descriptions.

NOMENCLATURE.

The simplification of varietal nomenclature is a work of first importance. After the distinct varieties are determined it becomes necessary to decide which of the many names applied by seedsmen to a particular type shall be adopted as the one by which that type shall be known. Generally the name which was first used should be the one adopted, but it is not always practicable to do this because that name may have gone out of general use. Many of our varietal names are so firmly established that it would be almost as difficult to change a language as to change some of those whose origins are traced to a renaming of types. Even though it were possible to decide which was the name first used there would yet remain to be determined whether the name at the present time represents the same type as when first used. Another

type may have been adopted, as, for example, an improved strain may have appeared in the type and this may have been given a new name and called a new variety. In the course of time seedsmen in receiving requests for the old variety may be led to fill all their orders from this new strain instead of using the original type. This is what seems to have occurred with the Early Curled Silesia lettuce, so that instead of having the old type we have now the new one, called Early Curled Simpson, which was developed from Early Curled Silesia.

Besides determining whether a name is the one first adopted, or the one in most general use at the present time, there needs to be considered also whether a name be so similar to other names as to be confusing and whether it be a many-worded one which can be shortened to one more simple. In regard to the latter question it is a safe rule to drop all such words as improved, selected, perfected, extra, select, choice, superior, celebrated, fine, and true from varietal names, and names of persons in the possessive case may often be omitted.

For the above reasons there seems, therefore, to be no hard and fast rule for the naming of varieties. In the following lettuce descriptions those names included in the list of distinct varieties have been chosen to designate the different types, and where confusing names exist among the list of subsidiary varieties the name which is preferred has been designated in some way.

ENVIRONMENT AND SELECTION.

The description of cultivated varieties becomes a particularly difficult matter because of differences due to environment and selection. All horticulturists have occasion to observe how color, shape, size, and quality are affected by the former and what great differences there are between well-selected and neglected stocks. Our cultivated varieties are quite different in this respect from our native flora, and in the matter of selection our cultivated vegetables which are propagated by seed are quite different from our fruit varieties, which are increased by cuttings. In the latter case there is simply a periodical multiplication of a single original plant or unit; in the former, a yearly aggregation of new units.

Too often the ideal formed of a variety in making selections is simply a general idea of a good plant rather than strict adherence to certain points of a variety which may not be attractive in some ways, but which are essential to its usefulness and value as a distinct sort. This lack of thoroughness in selection is not so marked in lettuce as in vegetables like corn, where, as a result of careless selection, the varieties tend to run very much together. Selection has the most marked influence on a variety when stocks are bred up from single plants. The variety is changed for good or bad more quickly in that way, but if a

number of plants are selected and propagated together the checks on one another are very numerous and the average run or tendency of the variety is generally maintained, even when the selections have not been well made.

SOURCE OF SEED.

It is very important that the source of seed be mentioned in all variety descriptions. This is necessary, not so much to indicate the various stocks handled by different seedsmen as it is to show whether there be a total difference in type. It sometimes happens that varieties are changed in the seed store or labels misplaced in the field, the mistake not being discovered for several years perhaps, while in the meantime the wrong seeds may not only have been sent out from the store, but also have been planted in the field. All those who have worked on a seed farm and know what a great number of stocks are grown on such a place, will realize how easily these mistakes may occur. But the use of the wrong type is due not so much to this cause as it is to the confusion resulting from the similarity of many varietal names. Generally, when varietal names are similar, they refer to one and the same type, but there are many cases where such is not the fact, and the seed grower or seedsman not knowing all these distinctions fills the order from the wrong type.

Were the writer to relate in the following descriptions all cases where the seed of a wrong variety has been supplied, or in deciding upon the right type were he to give equal weight to all samples regardless of the reputation of the different seed houses or their ability to obtain the right type, there would result from such a course a confusion rather than a clearing up of the subject. A record of such mistakes would be of little service to the reader. It would not even illustrate the reliability of the different seed houses, for the samples in any particular case would not be numerous enough to prove anything along this line. Where there is an apparent effort on the part of a seed house to supply a certain lettuce type for a particular variety no mistakes have been mentioned in the following descriptions, but where the wrong type is regularly supplied by a seedsman or where there is no effort to supply a certain type for a particular variety it becomes worthy of publication.

CULTURAL PECULIARITIES.

Lettuce is a cool-weather plant which succeeds best when grown in the spring and autumn. It succumbs to frost and cold if previously grown in warm weather, but stands severe weather if gradually hardened to it, so much so that gardeners even as far north as Long Island sometimes sow the seed in September and winter the plants over outdoors either entirely unprotected or with only a slight covering of

brush. Under favorable conditions the seed sprouts within three or four days, but it may sometimes be greatly delayed. When the weather is dry or cold, seed planted in September may not sprout until the next spring. Self-sown lettuce is common and inferior seed is sometimes obtained from such crops. Practically all the seed used in this country is raised in California. Only a very small part of it is imported, though perhaps not farther back than 1880 the larger part of it came from abroad, California having first produced seed about six years previous to that date.

Lettuce does not readily cross-fertilize in the field and different varieties are planted side by side with little danger of mixture. The plants are generally grown for seed in the same way as for market. Sometimes they are left so close together that no heads are formed, and this is said to produce inferior seed. It requires from 30 to 60 plants to produce a pound of seed.

TERMS USED IN DESCRIPTION.

Lettuce varies so greatly, whether grown under cover or outdoors, that it becomes necessary to decide upon one or the other condition for making comparison of varieties. For purposes of description and classification outdoor-grown lettuce is more satisfactory than greenhouse-grown specimens. They show greater differences in color and habit than plants grown under glass, and the following descriptions are, therefore, made from them. It will sometimes be found difficult to identify indoor-grown plants from such descriptions, and for this reason it will be necessary to bear constantly in mind that greenhouse lettuce grows much looser, more upright in habit, and is much more solid green in color than lettuce grown in the open.

CLASSES.

Cultivated lettuce is known technically to botanists as *Lactuca sativa* Linn. The species to which this name is given has not been found in the wild state, and it is generally supposed that it has been derived from *L. virosa* Linn. or *L. scariola* Linn.

The classes to be made of lettuce in the following descriptions are those recognized by most seedsmen and horticultural writers, namely, the *cos*, distinguished by their upright habit, long, loaf-shaped heads, and spatulate leaves; the *butter*, distinguished by their buttery flavor, and the *crisp*, distinguished by their hard, crisp texture. Express Cos, on Plates XV and XXVI, Paris White Cos, on Plate XIX, and the five types of leaves on Plate XXVII are good examples of the cos class; California Cream Butter, on Plate VIII, Maximum, on Plate XI, Hartford Bronzed Head, on Plate XIX, and Tennis Ball Black-Seeded, on Plate XXIII, of the butter class; while Green-Fringed, on Plate III, Malta, on Plate XII, White Star, on Plate XXI, and Grand Rapids, on

Plate XXV, show the characteristics of the crisp class. There is no difficulty in identifying the cos varieties, but certain of the crisp and butter varieties are much alike. The latter are generally more delicately flavored, softer, and more pliable in texture. The crisp varieties are coarser veined and larger ribbed than the butter sorts but not more so than the cos varieties. Their borders are also more developed than other parts of the leaf and the cotyledons of the young seedlings are generally longer than those of the butter sorts. On account of their much developed borders they are sometimes called frilled lettuce.

These three classes of lettuce are each again separated into two subclasses. The cos are divided into those which are *self-closing* or comprise kinds which form well blanched heads without tying up, and the *loose-closing*, or those open sorts, which will not form well blanched heads without tying. Express Cos, on Plate XV, and Paris White Cos, on Plate XIX, are good examples of the self-closing, and Bath Cos, on Plate III, of the loose-closing varieties.

The butter and crisp classes are separated alike into *cabbage-heading* and *bunching*, the former referring to plants whose leaves overlap one another in such a smooth, regular way as to form a head like a cabbage, and the latter to those whose heads are open, clustered, or bunched in arrangement, or if overlapping one another at all doing so at the heart only, all the outer or visible portions remaining more or less loose leaved. Hanson, on Plates I and XX, and Big Boston, on Plate V, are good examples of the cabbage-heading varieties, and Early Curled Simpson, on Plate IV, Prize Head, on Plate XXI, and Lancaster, on Plate XIX, of the bunching varieties. Under the latter subclass are embraced all degrees of clustered growth from varieties loose leaved like an endive and represented by Boston Curled and Green-Fringed to those densely bunched and represented by Black-Seeded Simpson and White Star.

The term "cutting" has been used by a few writers in the United States and by Vilmorin, of France, to embrace only varieties of the former mode of growth, but in this country it is generally made to include all bunching varieties and is used simply as another name for bunching. Vilmorin has also classified lettuces into *spring*, *summer*, and *winter*, but such a division has little value in a climate like ours, and has never been used in this country.

SIZE.

Lettuce varieties may be divided as to size into seven divisions. Examples of each are: *Very small* (White Forcing, on Pl. VII), *small* (Boston Curled, on Pl. VII), *small-medium* (Mignonette, on Pl. VII), *medium* (Reichner, on Pl. XVI), *large-medium* (Hubbard's Market, on Pl. X), *large* (California Cream Butter, on Pl. VIII), and *very large*

(Hanson, on Pl. I). The size of lettuce plants varies so much under different conditions of growth that it is not possible to give equivalents of these in figures, and they are employed only to give an idea of the relative size of varieties. They are not based wholly on either weight or total spread of plant, because some hard-headed varieties weigh more than larger but softer-headed sorts, and, on the other hand, a plant often develops in height rather than spread.

MATURITY.

The following terms may be used in lettuce descriptions to express different periods of maturity: *Very early* (meaning plants requiring from 54 to 60 days to mature from sowing of the seed), *early* (61 to 66 days), *early intermediate* (67 to 72 days), *intermediate* (73 to 76 days), *late intermediate* (77 to 80 days), *late* (81 to 85 days), *very late* (86 to 90 days). These figures are based upon trials conducted at Washington, D. C., during the spring and autumn months. They presuppose a quick germination, the plants appearing above the surface within four days after sowing the seed, and a good continuous average growth afterwards. If grown during spring in the Santa Clara Valley of California or in other similar places, or under unfavorable conditions, or in greenhouses during winter when the sun is not strong and the days are short, it may require a materially longer time to reach the same development; but if grown outdoors under similar conditions as those obtained at Washington these figures will answer for most parts of our country. It should be mentioned also that these dates are based upon the full maturity of the plant, or to the time when about one-fourth of the plants are at their prime. They do not refer to varieties when first usable, and for this reason some bunching sorts like Prize Head are not given as early a season as most seedsmen claim for them.

SHOOTING TO SEED.

The expression "shooting to seed" is used to denote the first appearance of a seed stalk. In cabbage varieties it is the same as the bursting of the head; in all varieties it is when the lettuce first becomes bitter and unusable. When plants have grown very poorly and in inferior stocks, the seed stalk sometimes develops immediately, so that no considerable head or cluster of leaves is formed. In well-grown plants of the firm cabbage-heading varieties the seed stalk is so tightly bound by the overlapping leaves that it becomes necessary to cut open the plant before the tender shoot can break through the head. This opening of the leaves is very necessary where lettuce is grown for seed. Unless it is done, the plant "heats," soon afterwards rots, and no seed stalk develops. The forcing varieties and most of the extra early and early sorts shoot to seed under the least provocation when grown outdoors in the ordinary way, and so susceptible are they to

the heat and strong sun of early or middle summer that they are seldom successfully grown outdoors unless forced or started very early and transplanted. The time at which lettuce varieties shoot to seed is so variable and depends so much upon conditions that it is impossible to give exact periods for the different varieties. Moreover, a variety can remain for weeks in the autumn without shooting to seed, whereas if planted in the spring the strong sun of early summer comes at the end rather than the beginning of its growth and forces the seed stalk to develop within a few days, while the extra early sorts which may have been planted on the same day will have arrived at their maturity earlier in the season when the influences forcing the seed stalk to grow are not so strong.

The terms used to express differences in shooting to seed are as follows:

Very quickly, meaning so susceptible to heat and strong sun as to be useless for summer growing. Such varieties are rarely successful outdoors in spring, are suitable only for forcing or indoor culture, and form no head in summer and very poor ones outdoors in spring. Examples are White Forcing and Emperor Forcing.

Quickly, meaning so susceptible to heat and strong sun as to form very poor heads in summer but sometimes good ones in spring. With the exceptions of Green-Fringed, Boston Curled, and Asparagus Cos, the varieties included in this division are to be classed as strictly forcing sorts. Examples are Tennis Ball White-Seeded and Hothouse.

Intermediate, meaning quickly shooting to seed in summer if the weather is unusually warm or the sun unusually strong. Because of earliness, varieties included in this division may be classed as excellent spring and sometimes also as good summer sorts, there being with good culture and favorable conditions little premature shooting to seed in spring or early summer. Examples are Hubbard's Market and Matador.

Slow, meaning such resistance to sun and strong heat that even in the hottest weather of midsummer the plants can be left for at least five days after maturing without danger of bursting their heads. Examples are Deacon and California Cream Butter.

Very slow, meaning fit to use for an unusually long time, even under influences of the strongest sun or most intense heat. Examples are Hanson and New York.

The time at which the different varieties developed seed stalks in the Department of Agriculture trials is given in the table on page 21.

HABIT.

In describing the habit of a plant we speak of it as *compact* (White Forcing, on Pl. VII) when the growth is confined to a small compass and the leaves are well gathered together. A *spreading* plant (Red

Besson, on Pl. XIII) is one whose growth extends over much ground and whose leaves grow so flatly outward that they become well separated from the middle portion of the plant. An *upright* growth is not necessarily compact, for the middle or head part of the plant may be very upright while the outer leaves may grow very loosely outward and cover much ground.

Solidity refers only to the head or middle part of the plant, the terms *hard*, *firm*, *soft*, *loose*, and *open* being used to express the different degrees of this quality, Hanson, Tennis Ball Black-Seeded, Red Besson, Onondaga, and Golden Heart standing, respectively, as examples of each. *Hard* refers to those cabbage varieties which approach a cabbage in solidity. *Firm* refers to those cos and softer leaved cabbage varieties which are so distinctly less solid than a cabbage as to bear little comparison with it for solidity but still to be regarded as decidedly solid for a lettuce. It includes also the most solid and dense varieties of the bunching sorts or those which at their heart are as solid as the firm cabbage varieties. *Soft* refers to those varieties which are so lacking in solidity as to be easily compressed, though they have no decided spaces between the leaves of the head or cluster. *Loose* refers to those varieties which are not only easily compressed but have decided spaces between the leaves of their head or cluster. *Open* refers to those varieties of a free, spreading growth with little or no denser middle part. The blanching of a lettuce depends largely upon its solidity, and it is really unnecessary to describe both these qualities, though it has been done in the following descriptions so as to point out these important qualities more directly.

Other important considerations in the habit of a plant are the arrangement of the leaves, whether *regular* (Deacon, on Pl. X), *irregular* (Speckled Dutch Butter, on Pl. XVIII), *formal* (Bath Cos, on Pl. III), or *twisted* (Nansen, on Pl. XXII), or whether the head leaves overlap one another *closely* (Deacon, on Pl. X), turn back and twist at their borders (Mette's Forcing, on Pl. XIX), meet at their margins only (Yellow Winter, on Pl. IX), fold well over one another past the middle of the head (Hanson, on Pl. I), grow together uprightly (Half Century, on Pl. XVIII) or curve inward and overlap one another in a complete cabbagelike manner (Deacon, on Pl. X).

LEAVES.

The leaves of lettuce vary so much in shape, character, and color, whether they be from the outside or center of the plant or from young, mature, seed-producing, summer, spring, or greenhouse specimens, that it becomes necessary to decide upon one kind of leaf for making comparisons. Accordingly, the leaves referred to in the following descriptions are always, except where otherwise noted, the

largest leaves of prime, outdoor plants, or those just outside the head or body of a mature specimen.

Shape.—Such great variations exist in the shape of lettuce leaves that but little can be written regarding the identification of varieties from the shape of their leaves. They may be either *broad* (Deacon, on Pl. XXIII) or *spatulate* (Early Curled Simpson, on Pl. XXV), the latter term referring to varieties with leaves gradually narrowed downward from a rounded summit. Those which curve inward are said to be *cup-shaped* (Earliest Cutting, on Pl. XXIII). The first early leaves of most varieties are spatulate. Some kinds, such as Early Curled Simpson, are of this shape when mature, but the largest middle leaves of mature plants of most varieties are as broad as long. Greenhouse-grown lettuces are more spatulate leaved than outdoor-grown specimens, and summer-grown plants are longer leaved than spring-grown ones.

Surface.—A leaf is said to be *blistered* when it has small elevations and depressions between its veins, and *crumpled* when such formations are large or consist of considerable folds and excessive developments of its growth. Grand Rapids, on Plate XXV, and Denver Market, on Plate XXVI, are good examples of leaves which are both blistered and crumpled; Express Cos, on Plate XXVI, and Green-Fringed, on Plate XXIII, of leaves which are blistered but not crumpled, and Asparagus, on Plate XXVII, of a leaf which is neither blistered nor crumpled. The very young leaves of all lettuce varieties are never crumpled and are seldom blistered. All varieties forming a head show both the crumpled and blistered character at the inner heart leaves, and it is only in the largest leaves just outside the head of a mature plant where marked variety characteristics in the surface of a leaf are found.

Margin.—The *margin* of a leaf is the line describing its contour. In lettuce it may be *entire*, i. e., without tothing or division; *serrate*, i. e., having teeth pointing forward; or *crenate*, i. e., scalloped by even, rounded notches. The serrate and crenate character is sometimes not developed until the plant is almost mature, and whenever the margin is mentioned it is the upper part which is referred to, never the lower portion, which is generally more or less jagged and does not show much character. Deacon and Earliest Cutting, on Plate XXIII, are good examples of leaves with entire margins; Big Boston, on Plates V, XXII, and XXIV, of leaves with obscurely crenate margins, and Hanson, on Plates I, XXII, and XXVI, of leaves with serrate margins.

Border.—The *border* of a leaf is that portion of the blade adjacent to the margin. In nearly all butter varieties this part is flat or blistered. In nearly all crisp lettuces it is *frilled*, by which is meant that the border is much more developed than other parts of the leaf so

that it forms sharp folds. In a few varieties of both the crisp and butter sorts this part of the leaf is *undulate*, by which is meant that the border is somewhat more developed than other parts of the leaf, so that it becomes wavy and forms rounded folds. The frilled and undulate character is sometimes not developed until the plant is mature, and whenever the margin is mentioned it is the upper part to which reference is made, never the lower portion, which is generally flat and does not show much character. Lancaster, on Plate XXIV, is a good example of a flat border, and Boston Curled and Green-Fringed, on Plate XXIII, of a frilled border. The undulate borders are so obscure in lettuce plants that it is difficult to illustrate them, but those of Big Boston, on Plates V, XXII, and XXIV, White Forcing, on Plate VII, and Speckled Dutch Butter, on Plate XVIII, are perhaps the best examples which can be given.

COLOR.

There are various differences in the color of nearly all distinct varieties of lettuces which the expert seedsman makes use of in identifying varieties in the field, but which on account of their minuteness and great variation under different conditions of weather become of little use in written descriptions. In the following varieties, instead of attempting to classify the different colors, all lettuces are simply referred to as brown or green. No attempt is made to divide them, as some writers have done, into bronze, red, pink, brown, and bronzed red, though a division has been made of the different shades of green and brown, as shown in the following examples: *Very light green*, Golden Queen; *light green*, Tennis Ball Black-Seeded; *medium green*, Hubbard's Market; *dark green*, White Chavigne; *very dark green*, New York; *dull green*, Tennis Ball White-Seeded; *glossy green*, Thick Head Yellow; *light brown*, Matador; *bright brown*, Prize Head; *dark brown*, Hartford Bronzed Head; *very dark brown*, Mignonette; *dull brown*, Brown Dutch Black-Seeded.

It should be borne in mind that the color description of these different varieties is based upon outdoor-grown plants. Sorts like Onondaga which are almost solid brown out of doors become almost solid green when grown in greenhouses.

SEEDS.

The seeds of lettuce varieties differ in color, size, and shape. Color is the most important quality and is the only variation commonly mentioned in descriptions. It is referred to in the following pages as whitish, blackish, or yellowish, and the seed of Red Winter Cos is described as brownish in color. The more common terms white, black, yellow, and brown are not used because these colors are never very decided and vary greatly with age and with the methods of harvesting

the seed. Those described as blackish may have a grayish tinge, as in Brown Genoa, or a brownish cast, as in California Cream Butter. The size of lettuce seed varies according to the locality in which it is grown, California seed being especially large. The crisp sorts are generally larger seeded than the butter varieties. The large crisp varieties have unusually large seeds. Some of the lettuce samples which have been examined are narrower in shape than others, a few are very pointed, but no uniform varietal differences have as yet been detected in these respects except that the Defiance variety is distinctly broader than other sorts.

SEEDLING PLANTS.

The seedling plants of the different lettuce varieties show more or less variation in the color, shape, and size of their first seed leaves, and furnish an interesting study for the botanist. These differences are, however, too slight and unimportant to be mentioned in describing varieties, and they need only be referred to by giving a few general rules in regard to them. Perhaps the most important of these is that the color of the mature plant is more or less clearly indicated by that of the young seedling, especially if the mature plant be brownish. When the brown tinge in the young seedling is so slight that it seems impossible to say whether there be any brown present, the seedling plant may in that case be cut off at its stem, and if, after withering somewhat, the stem becomes colored where it was cut, this seems to be, so far as has been observed, a sign that the plant is brownish when mature. If the stem remains green after being cut, the mature plant is probably wholly green in color. The seedlings of the cos varieties are known by their very long slender seed leaves and seem almost to be possessed of a leaf stem. The crisp varieties are uniformly narrower leaved than the butter varieties. Excepting in the case of Malta, Giant Glacier, and a few others, they are not, however, as long leaved as the cos varieties. The seed leaves of the butter varieties are generally more glossy green than the crisp and cos sorts.

VARIETIES SUITED TO DIFFERENT CONDITIONS AND REQUIREMENTS.

There are many important factors which determine the variety best suited for particular purposes. Some of these are:

(1) *Differences in soil and climate.*—The cos varieties, for example, succeed much better in England than in our country, and everywhere market gardeners find that certain kinds are best adapted for their conditions of soil and climate.

(2) *The season at which the plants are grown.*—Some kinds succeed well in the spring, but shoot to seed at once in hot weather and are of little use for summer planting. Certain kinds are very hardy to cold,

and winter successfully outdoors unprotected, while other varieties, especially the crisp sorts, are failures for this purpose.

(3) *Methods of growing, whether in greenhouses, hotbeds, or cold frames, and whether transplanted into the open or sown directly in place outdoors.*—In field culture, where time and space are not so important as in greenhouses, it is more profitable to grow the large varieties, which are much later in season than those commonly grown under glass.

(4) *The tastes of consumers or the requirements of the market.*—Some prefer the soft, delicate-flavored butter varieties, which are used for serving on the table with dressing; others are more accustomed to the hard texture of the crisp sorts; while still others think there is nothing superior to the coarse but sweet leaves of the cos lettuces, and a change from one to the other of these different types is agreeable to most persons. In some markets the light green lettuces are demanded and there is little sale for brown-colored sorts. In our eastern markets the head lettuces are most in demand during winter, while in the West the more easily grown bunching sorts of the Grand Rapids type are the kinds most used for forcing.

On account of differences due to the requirements mentioned, it is impossible to select a definite list of the best varieties. The following may be recommended as some of the best for the purposes named:

Home use.—Deacon, Hartford Bronzed Head, New York, Prize Head, Mignonette, Black-Seeded Simpson, Paris White Cos, California Cream Butter, Iceberg, Tennis Ball Black-Seeded.

Market gardening outdoors.—Big Boston, Tennis Ball Black-Seeded, Black-Seeded Simpson, Hanson, Reichner, California Cream Butter, Paris White Cos, Mammoth Black-Seeded Butter, Hubbard's Market, White Chavigne.

Market gardening under glass.—Grand Rapids, Crumpled-Leaved, Hothouse, Black-Seeded Simpson, Golden Queen, Mette's Forcing, White Star, Hubbard's Market, Tennis Ball White-Seeded, Detroit Market Gardener's Forcing.

Quality.—Half Century, Hartford Bronzed Head, Deacon, Paris White Cos, Mignonette, New York, Tennis Ball Black-Seeded, California Cream Butter, Hubbard's Market, Golden Queen.

Most largely planted in order named.—Prize Head, Hanson, Black-Seeded Simpson, Tennis Ball Black-Seeded, Big Boston, California Cream Butter, Early Curled Simpson, Mammoth Black-Seeded Butter, Deacon, Grand Rapids.

Desirable new or little-known varieties.—Mette's Forcing, Express Cos, Matador, Crumpled-Leaved, Unrivaled, White Chavigne, White Loaf, Bon Ton.

TABLE OF VARIETIES.

The measurements and dates given in the following table are based upon trials conducted at Washington, D. C., during the spring and autumn of 1903. They presuppose both a quick germination, where the plants appear above the surface within four days after sowing the seed, and a good average growth afterwards.

Variety.	Maturity from sowing seed.	First appearance of seed stalk after sowing seed.	Weight of mature plant.	Diameter of mature plant.
	Days.	Days.	Ounces.	Inches.
All Seasons	77	96	13 $\frac{1}{4}$	11 $\frac{1}{2}$
American Gathering	76	96	14 $\frac{1}{4}$	14 $\frac{1}{2}$
Asiatic	77	96	13 $\frac{1}{4}$	11 $\frac{1}{2}$
Asparagus	67	76	10	6 $\frac{1}{4}$
Asparagus Lobed-Leaved	78	91	12 $\frac{1}{6}$	14
Baltimore Oak-Leaved	72	96	7 $\frac{7}{8}$	10 $\frac{1}{2}$
Bath Cos.	90	109	18	11
Big Boston	78	96	16 $\frac{1}{8}$	11 $\frac{1}{2}$
Black-Seeded Simpson	78	100	20	14
Blonde Block Head	86	110	23	16 $\frac{1}{2}$
Bon Ton	80	105	21 $\frac{1}{6}$	14 $\frac{1}{4}$
Boston Curled	67	75	4 $\frac{1}{4}$	8 $\frac{1}{2}$
Briggs' Forcing and Garden	64	74	8	10 $\frac{1}{2}$
Brittle Ice	87	100	16 $\frac{1}{8}$	14
Brown Dutch Black-Seeded	78	93	12 $\frac{7}{8}$	11 $\frac{1}{2}$
Brown Dutch White-Seeded	78	93	12	11 $\frac{1}{2}$
Brown Genoa	78	93	12 $\frac{3}{8}$	12
Brown Head	83	101	10 $\frac{1}{8}$	12
Burpee's Butter Head	82	100	16	11 $\frac{1}{2}$
Buttercup	79	96	6 $\frac{1}{4}$	9
California Cream Butter	77	94	15 $\frac{1}{4}$	11 $\frac{1}{2}$
Chartier	84	104	15 $\frac{1}{4}$	13
Chicago Forcing	64	69	6 $\frac{1}{8}$	10
Cold Frame White Cabbage	70	82	7 $\frac{1}{2}$	9 $\frac{1}{2}$
Crumpled-Leaved	62	72	8 $\frac{1}{6}$	9 $\frac{1}{2}$
Dammann's Ice	87	100	16 $\frac{2}{3}$	14
Deacon	73	90	9 $\frac{7}{8}$	11
Defiance	79	102	8 $\frac{1}{2}$	12
Density	59	72	4 $\frac{1}{4}$	5 $\frac{1}{4}$
Denver Market	80	104	9 $\frac{7}{8}$	12
Detroit Market Gardener's Forcing	78	96	16 $\frac{1}{8}$	13 $\frac{1}{8}$
Dwarf White Heart Cos.	79	97	20 $\frac{1}{6}$	10
Earliest Cutting	70	86	6 $\frac{1}{2}$	10
Emperor Forcing	54	59	5	5 $\frac{1}{4}$
Emperor William	74	77	8 $\frac{7}{8}$	12 $\frac{1}{4}$
Eureka	89	107	13	14 $\frac{1}{4}$
Express Cos.	71	83	12	7 $\frac{1}{4}$
German Early Head	68	78	6 $\frac{1}{2}$	7 $\frac{1}{2}$
German Incomparable	74	77	8 $\frac{7}{8}$	11
Giant Glacier	88	111	12 $\frac{1}{4}$	17
Giant White Cos.	88	107	30	12
Golden Curled	84	104	16	13
Golden Heart	72	82	11 $\frac{1}{8}$	14

Variety.	Maturity from sowing seed.	First ap- pearance of seed stalk after sow- ing seed.	Weight of mature plant,	Diameter of mature plant.
				Days.
Golden Queen.....	65	75	6 $\frac{3}{4}$	7 $\frac{1}{2}$
Golden Spotted.....	78	94	6	9 $\frac{1}{2}$
Grand Rapids.....	69	79	12 $\frac{1}{2}$	14
Green Cos.....	82	102	26 $\frac{1}{4}$	10
Green-Fringed.....	71	81	4 $\frac{7}{8}$	10 $\frac{1}{2}$
Half Century.....	69	81	7 $\frac{1}{4}$	8 $\frac{3}{4}$
Hanson.....	86	110	23	16 $\frac{1}{2}$
Harbinger.....	69	81	7 $\frac{1}{2}$	10 $\frac{1}{2}$
Hardy Green Hammersmith.....	82	97	5 $\frac{5}{8}$	9 $\frac{1}{4}$
Hartford Bronzed Head.....	76	96	8 $\frac{3}{4}$	10
Hero.....	89	107	11 $\frac{1}{4}$	13 $\frac{1}{2}$
Hothouse.....	58	66	6 $\frac{3}{4}$	8 $\frac{1}{2}$
Hubbard's Market.....	69	84	9 $\frac{3}{8}$	10 $\frac{1}{2}$
Iceberg.....	82	103	20	14
Italian Ice.....	86	112	20 $\frac{1}{4}$	13 $\frac{1}{2}$
Lancaster.....	72	89	5 $\frac{5}{8}$	9 $\frac{1}{4}$
Large Yellow Market.....	82	98	16	13 $\frac{1}{2}$
Lee's Market Forcing.....	63	73	5 $\frac{3}{4}$	7 $\frac{1}{2}$
Limagne Cos.....	82	101	22	10
Malta.....	87	104	16 $\frac{3}{8}$	15
Mammoth Black-Seeded Butter.....	73	90	11 $\frac{1}{8}$	11 $\frac{1}{2}$
Marblehead Mammoth.....	82	103	18 $\frac{7}{8}$	14
Matador.....	63	75	6 $\frac{3}{4}$	10
Maximum.....	84	102	16 $\frac{3}{8}$	14 $\frac{1}{2}$
Mette's Forcing.....	60	69	6 $\frac{1}{4}$	8 $\frac{1}{2}$
Middletowner.....	67	75	10 $\frac{7}{8}$	11 $\frac{1}{4}$
Mignonette.....	68	83	7 $\frac{1}{4}$	7 $\frac{1}{2}$
Milly.....	72	86	7 $\frac{3}{8}$	9 $\frac{1}{4}$
Morse.....	80	104	22 $\frac{1}{4}$	14
Nansen.....	65	72	8 $\frac{3}{8}$	10 $\frac{1}{2}$
New York.....	87	111	25 $\frac{1}{8}$	16 $\frac{1}{2}$
Oak-Leaved.....	72	96	5 $\frac{3}{8}$	10 $\frac{1}{2}$
Onondaga.....	73	96	7 $\frac{3}{8}$	11 $\frac{1}{4}$
Paris Sugar.....	82	100	16	11 $\frac{1}{2}$
Paris White Cos.....	82	102	26 $\frac{1}{4}$	10
Passion.....	86	103	12 $\frac{1}{4}$	11 $\frac{1}{4}$
Philadelphia Butter.....	65	76	8	10 $\frac{1}{2}$
Prince of Wales Cos.....	86	112	33 $\frac{5}{8}$	10 $\frac{1}{2}$
Prize Head.....	76	96	14 $\frac{1}{8}$	14
Red Besson.....	78	84	11 $\frac{1}{4}$	12 $\frac{1}{2}$
Red Winter Cos.....	83	105	20 $\frac{3}{4}$	10
Reichner.....	65	72	8 $\frac{1}{8}$	10 $\frac{1}{2}$
St. Louis Black-Seeded Forcing.....	67	77	8 $\frac{7}{8}$	12
Shotwell's Brown Head.....	74	92	7 $\frac{1}{4}$	10
Shotwell's Brown Head (Bridgeman).....	74	84	7 $\frac{1}{4}$	10
Silver Ball.....	64	72	8 $\frac{1}{8}$	10 $\frac{1}{2}$
Speckled Dutch Butter.....	67	84	9 $\frac{7}{8}$	8 $\frac{1}{2}$
Sugar Loaf.....	89	106	18	13 $\frac{1}{2}$
Sutton's Giant Cabbage.....	84	102	16 $\frac{3}{8}$	14 $\frac{1}{2}$
Tennis Ball Black-Seeded.....	71	82	11 $\frac{1}{8}$	10 $\frac{1}{2}$
Tennis Ball White-Seeded.....	57	65	6 $\frac{2}{8}$	8 $\frac{1}{2}$
Thick Head Yellow.....	82	99	10 $\frac{1}{4}$	13

Variety.	Maturity from sowing seed.	First appearance of seed stalk after sowing seed.	Weight of mature plant.	Diameter of mature plant.
	Days.	Days.	Ounces.	Inches.
Tomhannock	76	96	13 $\frac{1}{2}$	13
Tom Thumb	66	82	6 $\frac{1}{2}$	7
Trout	84	99	7 $\frac{1}{2}$	10
Tyrolese	86	109	15 $\frac{1}{2}$	16
Unrivaled	78	96	16 $\frac{1}{2}$	11 $\frac{1}{2}$
Victoria Red-Edged	72	86	8 $\frac{1}{2}$	10
White Chavigne	78	95	15 $\frac{1}{2}$	11 $\frac{1}{2}$
White Forcing	55	60	5 $\frac{1}{2}$	5 $\frac{1}{2}$
White Giant	84	100	12	12 $\frac{1}{2}$
White Loaf	66	78	9 $\frac{1}{2}$	11
White-Seeded Simpson	74	92	12 $\frac{1}{2}$	13 $\frac{1}{2}$
White Star	84	104	18 $\frac{1}{2}$	15
White Summer Cabbage	72	87	10 $\frac{1}{4}$	11 $\frac{1}{4}$
Yellow-Seeded Butter	80	100	9	10 $\frac{1}{2}$
Yellow Winter	71	85	6 $\frac{1}{2}$	9 $\frac{1}{4}$

CLASSIFICATION OF VARIETIES.

[*w*=whitish seeds, *b*=blackish seeds, *y*=yellowish seeds, *br*=brownish seeds.]

CLASS I.—Butter varieties.

SUBCLASS I.—Cabbage-heading varieties.

COLOR DIVISION I.—Plants wholly green.

- Advancer (*w*).
- All Seasons (*b*).
- Briggs' Forcing and Garden (*w*).
- Burpee's Butter Head (*w*).
- Buttercup (*w*).
- Deacon (*w*).
- Emperor Forcing (*w*).
- German Early Head. (*w*).
- Golden Queen (*w*).
- Harbinger (*w*).
- Hardy Green Hammersmith (*w*).
- Hubbard's Market (*w*).
- Large Yellow Market (*w*).
- Lee's Market Forcing (*w*).
- Mammoth Black-Seeded Butter (*b*).
- Mette's Forcing (*w*).
- Nansen (*w*).
- Paris Sugar (*w*).
- Philadelphia Butter (*w*).
- Reichner (*w*).
- Silver Ball (*w*).
- Tennis Ball Black-Seeded (*b*).
- Thick Head Yellow (*w*).
- Tom Thumb (*b*).
- Unrivaled (*w*).
- White Chavigne (*w*).
- White Forcing (*w*).
- White Giant (*b*).
- White Loaf (*w*).
- White Summer Cabbage (*w*).
- Yellow-Seeded Butter (*y*).

CLASS I.—Butter varieties—Continued.

SUBCLASS I.—Cabbage-heading varieties—Continued.

COLOR DIVISION II.—Plants tinged brownish, larger part green.

- Big Boston (*w*).
- Brown Dutch Black-Seeded (*b*).
- Brown Dutch White-Seeded (*w*).
- Brown Genoa (*b*).
- California Cream Butter (*b*).
- Cold Frame White Cabbage (*w*).
- Crumpled-Leaved (*w*).
- Defiance (*w*).
- Emperor William (*b*).
- German Incomparable (*b*).
- Half Century (*b*).
- Hothouse (*w*).
- Maximum (*b*).
- Milly (*w*).
- Passion (*b*).
- St. Louis Black-Seeded Forcing (*b*).
- Shotwell's Brown Head (*b*).
- Speckled Dutch Butter (*w*).
- Sutton's Giant Cabbage (*y*).
- Tennis Ball White-Seeded (*w*).
- Victoria Red-Edged (*w*).
- Yellow Winter (*w*).

COLOR DIVISION III.—Plants brownish, small portion only greenish.

- Brown Head (*w*).
- Eureka (*y*).
- Golden Spotted (*w*).
- Hartford Bronzed Head (*b*).
- Hero (*b*).
- Matador (*w*).
- Red Besson (*b*).

CLASS I.—Butter varieties—Continued.

SUBCLASS I.—Cabbage-heading varieties—Continued.

COLOR DIVISION III.—Plants brownish, small portion only greenish—Continued.

Shotwell's Brown Head (Bridge-man) (b).

Sugar Loaf (w).

Trout (w).

SUBCLASS II.—Bunching varieties.

COLOR DIVISION I.—Plants wholly green.

Baltimore Oak-Leaved (w).

Earliest Cutting (w).

Golden Heart (w).

Lancaster (w).

Oak-Leaved (w).

COLOR DIVISION II.—Plants brownish.

Hero (b).

CLASS II.—Crisp varieties.

SUBCLASS I.—Cabbage-heading varieties.

COLOR DIVISION I.—Plants wholly green.

Blonde Block Head (w).

Brittle Ice (w).

Dammann's Ice (w).

Denver Market (w).

Detroit Market Gardener's Forcing (w).

Giant Glacier (w).

Golden Curled (w).

Hanson (w).

Italian Ice (w).

Malta (w).

New York (w).

COLOR DIVISION II.—Plants tinged brownish, large part greenish.

Density (w).

Iceberg (w).

Marblehead Mammoth (w).

Tyrolese (w).

COLOR DIVISION III.—Plants brownish, small part only greenish.

Chartier (w).

Mignonette (b).

Sugar Loaf (w).

CLASS II.—Crisp varieties—Continued.

SUBCLASS II.—Bunching varieties.

COLOR DIVISION I.—Plants wholly green.

Black-Seeded Simpson (b).

Bon Ton (b).

Boston Curled (b).

Chicago Forcing (b).

Detroit Market Gardener's Forcing (w).

Golden Curled (w).

Grand Rapids (b).

Green-Fringed (w).

Middletowner (w).

Morse (w).

White-Seeded Simpson (w).

White Star (w).

COLOR DIVISION II.—Plants brownish, small part only greenish.

American Gathering (w).

Chartier (w).

Onondaga (w).

Prize Head (w).

Tomhannock (w).

CLASS III.—Cos varieties.

SUBCLASS I.—Spatulate-leaved varieties.

HEADING DIVISION I.—Self-closing.

COLOR DIVISION I.—Plants wholly green.

Dwarf White Heart Cos (w).

Express Cos (w).

Giant White Cos (w).

Green Cos (w).

Limage Cos (w).

Paris White Cos (w).

Prince of Wales Cos (w).

COLOR DIVISION II.—Plants brownish.

Red Winter Cos (br).

HEADING DIVISION II.—Loose-closing.

Bath Cos (b).

SUBCLASS II.—Lanceolate-leaved varieties.

Asparagus (b).

SUBCLASS III.—Lobed-leaved varieties.

Asparagus Lobed-Leaved (b).

KEY TO VARIETIES.

[Applicable only to outdoor-grown specimens.]

- Leaves distinctly lanceolate *Asparagus*
- Leaves spatulate, oval to roundish, sometimes lobed, always rounded at summit 2
- Leaves distinctly lobed and entire 3
- Leaves entire, serrate, or crenate at upper part, sometimes deeply cut at base but never distinctly lobed in any part 5
- Lobes terminating mostly at base of leaf *Lancaster*
- Lobes terminating mostly along midrib of leaf 4
- Seeds blackish *Asparagus Lobed-Leaved*
- Seeds whitish *Baltimore Oak-Leaved, Oak-Leaved*

5. Leaves always either spatulate or oval in shape, sometimes blistered but neither outside nor inner heart leaves ever crumpled, these leaves always straight and stiff, never thin and soft. Excepting <i>Asparagus</i> and <i>Asparagus Lobed-Leaved</i> includes all lettuces commonly called cos	6
5. Leaves generally broad in shape, rarely long, never narrower than broadly spatulate, more or less blistered or crumpled or both, the inner heart leaves always crumpled and somewhat soft, never decidedly stiff and flat. Excepting the lobed-leaved varieties includes lettuces variously known as crisp, butter, cabbaging, bunching, and cutting	9
6. Plant brownish	7
6. Plant wholly green	8
7. Plant washed with dull brown and seeds blackish	<i>Bath Cos</i>
7. Plant almost solid bright brown and seeds brownish	<i>Red Winter Cos</i>
8. Plant very early and small for a cos variety, early-intermediate in season, medium in size compared to most butter and crisp varieties	<i>Express Cos</i>
8. Plant very late and large compared to most butter and crisp varieties	<i>Dwarf</i>
	<i>White Heart Cos, Giant White Cos, Green Cos, Limagne Cos, Paris White Cos, Prince of Wales Cos</i>
9. Leaves serrate	10
9. Leaves entire to crenate	26
10. Seeds blackish	11
10. Seeds whitish	14
11. Plant brownish and cabbaging	<i>Mignonette</i>
11. Plant wholly green and bunching	12
12. Plant dense bunching and seeds germinating readily	<i>Black-Seeded Simpson, Bon Ton</i>
12. Plant loose bunching and seeds hard to germinate	13
13. Plant small, of a very wild, coarse quality and flavor; suitable only for garnishing	<i>Boston Curled</i>
13. Plant never smaller than medium, not delicate in quality, but generally much liked and never wild flavored	<i>Chicago Forcing, Grand Rapids</i>
14. Plant cabbaging	15
14. Plant bunching	22
15. Plant more or less brownish	16
15. Plant wholly green	19
16. Plant distinctly vase-shaped and tall, head oval in shape	<i>Sugar Loaf</i>
16. Plant not distinctly vase-shaped and tall, head globular	17
17. Plant very small and very early	<i>Density</i>
17. Plant large, or very large, late	18
18. Small part only of plant brownish	<i>Iceberg, Marblehead Mammoth, Tyrolean</i>
18. Larger part of plant brownish	<i>Chartier</i>
19. Plant very dark green	<i>New York</i>
19. Plant light green	20
20. Parts of leaf margin crenate	<i>Brittle Ice, Dammann's Ice, Malta</i>
20. All parts of leaf margins plainly serrate, no part crenate or entire	21
21. Plant always very distinctly cabbaging	<i>Blonde Block Head, Hanson</i>
21. Plant generally bunching but sometimes cabbaging	<i>Detroit Market Gardener's Forcing, Golden Curled</i>
22. Plant very brownish	23
22. Plant wholly green	25
23. Bunching when not well grown, decidedly cabbage heading when at its best	<i>Chartier</i>
23. Always decidedly bunching	24

24. Plant treelike in appearance or with large, long stem, elevating plant high from ground	<i>Tomhannock</i>
24. Plant not treelike in appearance, or at least not elevated high from ground, and stem not long	<i>American Gathering, Onondaga, Prize Head</i>
25. Plant small, and although borders of leaves are enormously developed and much frilled, their surfaces are quite smooth and never crumpled but sometimes sparingly blistered	<i>Green-Fringed</i>
25. Plant medium to very large, leaves frilled at borders and their surfaces never smooth, always more or less blistered and crumpled	<i>Early Curled Silesia, Golden Curled, Middletowner, Morse, White-Seeded Simpson</i>
26. Plant bunching	27
26. Plant cabbage heading	31
27. Seeds blackish	<i>Hero</i>
27. Seeds whitish	28
28. Plant brownish	<i>Sugar Loaf</i>
28. Plant wholly green	29
29. Plant dense bunching and leaf margins crenate	<i>White Star</i>
29. Plant loose bunching and leaf margins entire	30
30. Leaves decidedly cup-shaped and quite smooth	<i>Earliest Cutting</i>
30. Leaves never cup-shaped nor incurved, very much blistered and crumpled, never smooth	<i>Golden Heart</i>
31. Seeds yellowish	32
31. Seeds whitish or blackish	34
32. Plant wholly green	<i>Yellow-Seeded Butter</i>
32. Plant brownish	33
33. Plant largely green, brownish in spots or in blotches only	<i>Sutton's Giant Cabbage</i>
33. Plant largely brownish, little or no green on exposed parts	<i>Eureka</i>
34. Seeds blackish	35
34. Seeds whitish	45
35. Plant wholly green	36
35. Plant more or less brownish	38
36. Plant small-medium, early, and very dark green	<i>Tom Thumb</i>
36. Plant medium in size or larger, intermediate or later in season, and light or very light green	37
37. Leaves very little blistered and very thick	<i>All Seasons</i>
37. Leaves much blistered and thin	<i>Mammoth Black-Seeded Butter, Tennis Ball Black-Seeded, White Giant</i>
38. Plant a deep, almost solid brown	39
38. Plant largely green or sometimes becoming dull greenish brown, never dark brown	40
39. Plant large in size	<i>Red Besson</i>
39. Plant medium in size	<i>Hartford Bronzed Head, Shotwell's Brown Head</i>
40. Plant spotted (very faintly and sparingly in Half Century)	41
40. Plant not spotted	44
41. Inner heart leaves spotted	<i>Brown Genoa, Shotwell's Brown Head (Bridgeman)</i>
41. Inner heart leaves never spotted	42
42. Margins conspicuously fringed with hairlike bristles	<i>Maximum</i>
42. Bristles at margin none or very obscure	43
43. Plant very dark green, sparingly and faintly spotted	<i>Half Century</i>
43. Plant dark green or of medium green color, freely and distinctly spotted	<i>California Cream Butter, Emperor William</i>

44. Plant when in prime marketable condition plainly colored at base of mid- ribs and stem of plant.....	<i>Brown Dutch Black-Seeded</i>
44. Plant when in prime marketable condition never colored at base of mid- ribs nor stem of plant.....	<i>German Incomparable,</i> <i>Passion, St. Louis Black-Seeded Forcing</i>
45. Plant more or less brownish.....	46
45. Plant wholly green	55
46. Plant distinctly spotted	47
46. Plant not distinctly spotted; if spotted at all very sparingly and faintly so.....	50
47. Margins obscurely crenate and borders undulate.....	<i>Speckled Dutch Butter</i>
47. Margins entire and borders flat	48
48. Seeds very wide and plant mostly green.....	<i>Defiance</i>
48. Seeds average in width and plant mostly brownish.....	49
49. Spots large and well separated.....	<i>Golden Spotted</i>
49. Spots fine and close together.....	<i>Trout</i>
50. Plant largely brownish	51
50. Plant largely green, brownish only in places or spots.....	52
51. Plant late and very spreading	<i>Brown Head</i>
51. Plant early and compact	<i>Matador</i>
52. Leaves obscurely crenate at margins and undulate at borders	53
52. Leaves entire at margins and flat at borders	54
53. Planted indoors only, a strictly forcing sort	<i>Crumpled-Leaved</i>
53. Sometimes planted indoors, but more largely planted outdoors	<i>Big Boston</i>
54. Large-medium in size and not suitable for forcing.....	<i>Brown Dutch White-Seeded</i>
54. Small-medium in size and suitable for forcing	<i>Cold Frame White Cabbage,</i> <i>Hothouse, Milly, Victoria Red-Edged, Tennis Ball White-Seeded, Yellow Winter</i>
55. Plant of the crisp class, margins obscurely crenate	<i>Italian Ice</i>
55. Plant of the butter class, margins obscurely crenate or entire	56
56. Margins obscurely crenate and borders undulate	57
56. Margins entire and borders flat	58
57. Plant large and late-intermediate in season.....	<i>Unrivaled</i>
57. Plant small-medium or smaller and early or very early in season	<i>German</i> <i>Early Head, Golden Queen, Lee's Market Forcing, White Forcing</i>
58. Plant dark green.....	<i>White Chavigne</i>
58. Plant not darker than medium green.....	59
59. Plant golden green, the lightest green in color of any lettuce.....	<i>Buttercup</i>
59. Plant often very light green, but never decidedly golden green	60
60. Heads decidedly long when first forming and leaves very thick	<i>Asiatic, Deacon</i>
60. Heads generally globular, sometimes long, but leaves of such plants never thicker than medium	61
61. Plants suitable for forcing	<i>Advancer,</i> <i>Briggs' Forcing and Garden, Emperor Forcing, Harbinger, Hub- bard's Market, Lee's Market Forcing, Nansen, Philadelphia</i> <i>Butter, Reichner, Silver Ball, White Loaf, White Summer Cabbage</i>
61. Plant not suitable for forcing	62
62. Leaves stiff and of poor quality, plant not suited for summer growing	<i>Hardy</i> <i>Green Hammersmith</i>
62. Leaves soft rather than stiff, good quality, and succeeding well in summer	<i>Burpee's Butter Head, Large Yellow</i> <i>Market, Paris Sugar, Thick Head Yellow</i>

DESCRIPTION OF VARIETIES CLASSED AS DISTINCT.

Vegetable varieties may be considered for convenience in classification and description as either distinct or subsidiary. The former class includes those representing the different types or kinds which can be identified from one another because of more or less well-defined and distinct characters. The latter is made up of renamed or so-called varieties which are plainly identical with the distinct sorts or are simply superior or deteriorated strains of them, or, if of distinct origin, are so much like the distinct varieties as to be practically identical with and indistinguishable from them.

The following list is supposed to include all the really distinct varieties sold to-day by American seedsmen. The figures following the variety name indicate the number of seedsmen who mention that name in their lists of varieties for the year 1903. The seedsmen mentioned after the figures are those from whom the seed was obtained, and upon these samples the descriptions are largely based. Besides these tests the writer has examined the lettuce fields and trial grounds of our principal seedsmen and based his descriptions also upon the correspondence and conversations which he has had with American seed growers and dealers. An effort has been made to give the exact standing of all the varieties tested. It is, however, impossible to do this in every case, and the list of synonyms which is here included is not given as an absolute one. The sorts named appeared identical at Washington and in other places where the writer has observed them, but a few of the varieties named may prove to be distinct in some other soils and under other conditions.

ADVANCER.

Listed by one seedsmen. Seeds tested: Michell, 1901-1903.

Comparison.—Little known or planted. Same general character and usefulness as Hubbard's Market and Hanson and possibly identical with one of them, but further trials are necessary before this can be definitely determined.

History.—Named and introduced in this country in 1901 by Henry F. Michell, who writes that the variety was obtained from F. Spittel, Arnstadt, Germany.

ALL SEASONS.

Listed by eight seedsmen. Seeds tested: Vaughan, 1899-1903.

Description.—A decidedly butter variety, strictly cabbage-heading, large, late-intermediate in season, slow to shoot to seed, young plant very spreading, regular in growth, its leaves very straight and extending flatly over the ground. Mature plant fairly compact. Head elongated when first forming, but flattened or sometimes globular when fully developed, fairly firm, well defined, extremely well blanched, its leaves very completely but loosely overlapping one another, but outer ones of plant well separated from the head proper, the latter thereby left very bare or exposed. Leaves broad in shape, peculiarly smooth, very little blistered, crumpled, or twisted, unusually thick in appearance, but soft and limp rather than stiff; margins entire and fringed with hair-like bristles; borders flat. Color characteristic light grayish green, never spotted nor brownish in any part. Quality excellent;

sweet, decidedly buttery, and with thick, soft leaves of much substance. Seeds very blackish.

Comparison.—Scarce and little planted. A valuable new variety of the same general character and usefulness as the well-known Deacon, differing principally in being a little larger and later and may in some gardens prove a more satisfactory variety. Highly recommended for trial wherever Deacon is successful. The variety is also similar to Asiatic, and next to these two sorts perhaps most like Reichner and Silver Ball. It is readily identified by its bristled margins and blackish seeds.

Synonym.—Vaughan's All Seasons.

History.—Named and introduced into this country in 1897 by J. C. Vaughan, who states that the variety was imported from France about ten years ago under the name of Denaiff.

Illustrations.—A young plant of the variety is shown on Plate XXII. Other views which answer to illustrate the type fairly well are shown by Deacon, on Plates X and XXIII. The longitudinal section of Matador, on Plate XX, illustrates the solidity of the heads.

AMERICAN GATHERING.

Listed by fourteen seedsmen. Seeds tested: Landreth, 1900-1901; Rawson, 1901; Thorburn, 1901-1903.

Description.—A decidedly crisp variety, strictly bunching, large, early marketable, but late-intermediate in its fullest development, slow to shoot to seed. Plant very spreading, of unusually low growth, and consisting of a loose, flattened, or slightly rounded cluster of leaves, always more or less opened or spread out at the center, and therefore never in the least cabbage-like nor heading, though, nevertheless, the inner part of the plant is well blanched. Leaves short spatulate in shape, excessively blistered and crumpled, very little twisted, fairly rigid, but not stiff; finely serrate at margins, excessively developed, much frilled at borders. Color bright brown, varying to bright green in less exposed parts and center of plant; borders of leaves no more colored than other parts, while stem of plant, base of midribs, and inner heart leaves are wholly green; no part of plant distinctly spotted. Quality good; sweet in flavor, very tender and crisp in texture, but leaf thin and lacking substance. Seeds large, whitish.

Comparison.—One of the lesser grown sorts. Usefulness and value same as Prize Head, and not sufficiently different from that well-known sort to be a very important variety. It differs in being slightly lower growing, more blistered and crumpled in the leaves, and more brownish in color.

Synonym.—Prize Head is often used in filling orders for this variety.

History.—Apparently of American origin, and known in this country for at least twenty-five years.

Illustrations.—A mature plant of the variety is shown on Plate IV. Other views which answer to illustrate the type fairly well are Hanson, on Plates XXII and XXVI, and Prize Head, on Plate XXI. The leaf of the variety, however, is considerably more crumpled than shown on Plate XXVI, or somewhat approaches that of Grand Rapids, on Plate XXV.

ASIATIC.

Listed by one seedsman. Seeds tested: Dallwig, 1900-1903.

Description.—Excepting large in size and late-intermediate in season, the description is the same as given of Deacon.

Comparison.—Scarce and rarely planted. Usefulness and value similar to Deacon. At Washington not so reliable a header, and, excepting for being little larger in size and later in season, not sufficiently different from that variety to become an impor-

tant lettuce, although under some exceptional conditions it may prove more satisfactory than Deacon. The two varieties are sometimes identified by differences in color or in the shape of the heads. Asiatic is similar also to All Seasons.

History.—Apparently first listed in 1893 by W. E. Dallwig, who writes that the seed was obtained from Germany.

Illustrations.—The general character of the variety is shown by Deacon, on Plates X and XXIII, and All Seasons, on Plate XXII. The solidity of the heads is illustrated by Mette's Forcing, on Plate XIX.

ASPARAGUS.

Listed by five seedsmen. Seeds tested: Alneer, 1902; Buckbee, 1901–1902; Childs, 1899–1900; Ewing, 1901; Graham, 1902; Simmers, 1901–1902.

Description.—A peculiar cos sort, wholly different from other cultivated varieties, and more resembling a chicory than a lettuce plant. Medium in size, early-intermediate in season, shoots to seed quickly, wilts very soon after being pulled. Plant compact, composed of many lanceolate, erect, straight-growing leaves forming a long pointed cluster, yet more or less open at the center, or at least the leaves never close enough to blanch to any extent. Leaves wholly smooth, never in the least blistered, crumpled, nor twisted, entire at the upper margins, sometimes serrate at lower parts, flat at the borders, fairly thick and stiff, though a few of the outer leaves weak or wilting and falling away limply from the plant. Midrib of leaf very hard, large, and prominent. Color very dark green, never spotted nor brownish in any part. Quality very poor; tough and hard in texture and of a rank, wild flavor, excepting the midrib, which, if used at the proper stage, is very brittle, sweet, and of a peculiar flavor and texture. Seeds blackish.

Comparison.—Scarce and rarely planted. Its leaves are said to be cooked and served like asparagus, but the writer doubts whether such a use of them can be recommended. The midribs, being hard and less hollow and pithy than other sorts, make a more satisfactory dish to serve like celery than other varieties. However, for this purpose it is suitable for a few days only, as the leaves soon become bitter when the weather is at all warm or the conditions the least unfavorable for its growth. Not recommended except to amateurs in an experimental way for the purpose named.

History.—Listed by a dozen or more American seedsmen about eight years ago, and described at that time as a new variety of French origin.

Illustrations.—See Plates XIV and XXVII.

ASPARAGUS LOBED-LEAVED.

Listed by one seedsmen. Seeds tested: Ewing, 1902–1903.

Description.—Classed with the cos varieties, but really as much bunching in habit as cos-like. Large, late-intermediate in season, and shooting to seed at an intermediate date. Plant very spreading, occupying much space, vase-shaped in form, with a depressed or unfulfilled center, the leaves growing very straight, regular, and never close enough for blanching to any extent. Leaves long and narrow in form, rounded at top, deeply lobed from top to bottom, like an oak leaf, the lower part sometimes separated into large divisions. Surface very smooth or occasionally slightly blistered, leaves never in the least crumpled nor twisted, but rather flat, stiff, and thick, and with a large protruding midrib; margins entire and borders flat. Color very dark green, never spotted nor brownish in any part. Quality very poor; tough and hard in texture, and of a rank, wild flavor, excepting the midrib, which, if used at the proper stage, is very brittle, sweet, and of a peculiar flavor and texture. Seeds blackish.

Comparison.—Scarce and rarely planted. Suitable for the same purpose as Asparagus and possessing the same faults but in a less degree. Larger, later, slower to shoot

to seed, furnishing a great many more leaves, and probably better in every way than that variety, but it can not be recommended except to amateurs in an experimental way.

History.—First introduced in America in 1900 by William Ewing & Co. under the name of New Asparagus. It must not be confused with New Asparagus listed by other seedsmen, which is a lanceolate-leaved variety.

Illustrations.—See Plates XIII and XXVI.

BALTIMORE OAK-LEAVED.

Listed by three seedsmen. Seeds tested: Burpee, 1902; Griffith & Turner, 1903; Johnson & Stokes, 1899, 1900, 1903.

Description.—A butter variety, strictly bunching, medium in size, early-intermediate in season, extremely slow to shoot to seed. Plant growing very close to the ground and consisting of a low, very well rounded, symmetrical, remarkably compact, firm cluster of leaves neither opened nor spread out at its center nor heading in habit, though inner part becomes fairly well blanched. Leaves very much twisted together in the head, broad, deeply lobed, like an oak leaf, especially the inner and larger leaves, these being sometimes almost divided and the lobes so excessively developed as to make the leaf appear like several grown together. Leaves smooth, thick, stiff, entire at margins, flat at the borders, and generally with distinct glands near the base of outer part of the midribs, one on each side. Color very bright green, never spotted nor brownish in any part. Quality poor; hard in texture, and decidedly lacking in flavor, sweetness, and delicacy. Seeds whitish.

Comparison.—Very little planted. Best known around Baltimore, Washington, Philadelphia, and in the South. A very novel, beautiful golden-green lettuce of fine form, and valuable because remarkably slow to shoot to seed and making attractive heads during the hottest summer weather, no other variety probably growing so well at this time of the year. In quality one of the poorest of all varieties, and therefore not recommended for home use. Not used for forcing. Decidedly more compact and attractive and a better lettuce in every way than the old form known as Oak-Leaved. It is more like that variety than any other, and next most like Lancaster. These three varieties are very different from other kinds, and are peculiar for the glands present at the base of their leaves.

Synonyms.—None have so far been identified. The sorts known as American Oak-Leaved and Southern Blunt Point Oak-Leaved have, however, not yet been tested by the writer.

History.—No information in regard to the history of this variety has yet been obtained excepting only that Griffith & Turner listed the variety in 1895.

Illustrations.—The variety is shown on Plates XV and XXIV. The general character of the cross section is illustrated by Lancaster on Plate XIX.

BATH COS.

Listed by three seedsmen. Seeds tested: Gregory, 1899; Rawson, 1901-1903.

Description.—A typical cos variety of the open kind, large in comparison to either the crisp or butter sorts, but only large-medium for this group. Very late in season and slow to shoot to seed. Young plant extremely regular or formal in growth, fairly spreading, its leaves many and extending almost flatly over the ground. Mature plant of a straight, upright-growing habit, but with many outer spreading leaves and therefore never really compact, though its innermost leaves form a well defined, loaf-shaped, fairly well blanched, soft head, and close loosely toward one another, their upper parts meeting at the margins instead of overlapping one another at the top of the head. Leaves oval to slightly spatulate, truncate, very smooth, never blistered, crumpled, nor twisted, very straight and flat in growth, even the

inner head leaves but slightly spoon-shaped; margins shallow serrate; borders finely frilled. Color dull greenish brown and very even throughout, that is, never colored unevenly in definite areas or blotches, excepting border more colored than other parts, but even this part marked by no sharp colored edge. No part of plant distinctly spotted, stem of plant, however, and midribs of leaves to their very base plainly colored; inner head leaves wholly green. Quality fair; sweet in flavor, hard but not coarse in texture. Seeds blackish.

Comparison.—Popular in Europe, but little known and rarely planted in this country. A poor sort at Washington, generally open-growing in habit and forming no head. Too late, spreading, and unattractive for use when other sorts like Paris White Cos succeed so much better. Wholly different in habit and usefulness from any other American variety. The color, which is a dull brown, is somewhat similar to that of Brown Dutch Black-Seeded.

History.—A well-known European sort and sold in the United States for at least forty years.

Illustrations.—A mature and somewhat imperfectly developed plant of the variety is shown on Plate III. This illustrates, nevertheless, about the way the variety generally grows in this country, though when given just the right conditions it will grow decidedly taller and closer. A leaf of the variety is shown on Plate XXVII.

BIG BOSTON.

Listed by one hundred and forty-nine seedsmen. Seeds tested: Buist, 1901; Burpee, 1901; Burwell, 1900; Ferry, 1900, 1901; Griffith & Turner, 1901; Henderson, 1900, 1901; Landreth, 1899, 1901; Thorburn, 1899, 1901, 1903.

Description.—A fairly butter variety, strictly cabbage-heading, large, late-intermediate in season, slow to shoot to seed. Young plant with leaves very upright and twisted, often appearing like several specimens growing together. Mature plant very compact and forming a well-defined, broad, slightly pointed, hard, well blanched head, with outside leaves characteristically turned and twisted backward at their uppermost borders, but otherwise very tightly and completely overlapping one another. Leaves very broad, mostly smooth, slightly blistered and crumpled, fairly twisted, thick, and stiff, hard, and not easily torn, obscurely crenate at margins, undulate at borders. Color, light dull green, excepting an extremely narrow, sharply defined, light brown border, no part of leaf spotted, and inner head leaves and stem of plant never colored. Quality poor to fair; slightly buttery in flavor, hard in texture, and lacking the delicacy, sweetness, and tenderness of strictly butter varieties. Seeds whitish.

Comparison.—Probably one of the five most largely grown varieties of the United States. Adapted to all parts of the country and grown everywhere, but especially in the South by market gardeners to ship North during the winter, for which purpose it is probably grown more than any other. Succeeds especially well in late autumn and is a favorite in the East and North for growing at that time of the year. Also a good summer variety. It is a very large lettuce for forcing, and is used to some extent for growing under glass, requiring, it is said, a very cool temperature to do well in greenhouses. Distinctly a market gardener's variety and although generally satisfactory for home use other sorts of better quality are recommended to private gardeners. A splendid shipper, sure header, reliable, and hardy. Excepting in color this lettuce is the same as Unrivaled and is more like that sort than any other. Aside from this variety it does not closely resemble any other, but is perhaps more like Crumpled-Leaved than most other varieties, though very different in usefulness and value. The young plant is similar in habit to Speckled Dutch Butter.

Synonyms.—Henderson's Big Boston, Holmes's Big Boston, Big Head (Griffith & Turner), California Giant White Forcing, Giant White Forcing, Chesterfield, Houston Market, All Right, Myers' All Right, New Lettuce No. 1, Relish, Trocadero.

Confusing names.—Boston Market, Large Boston Market, Boston Curled, Boston Glasshouse, Boston Hothouse, Boston Forcing, and Tennis Ball White-Seeded, all different types from Big Boston.

History.—Named and introduced by Peter Henderson & Co. about fourteen years ago.

Illustrations.—Different views of the variety are given on Plates V, XXII, and XXIV. The solidity of the head is about the same as that of Matador, on Plate XX.

BLACK-SEEDED SIMPSON.

Listed by one hundred and seventy seedsmen. Seeds tested: Burpee, 1901; Farquhar, 1901; Ferry, 1900-1902; Henderson, 1901; Johnson & Stokes, 1901; Landreth, 1899, 1901; Livingston, 1900; McMillan, 1900; Thorburn, 1899, 1901, 1903.

Description.—A decidedly crisp variety, bunching, but sometimes tending to a cabbage-like growth, large, early marketable, but late-intermediate in attaining fullest development, slow to shoot to seed. Plant fairly compact and consisting of a firm, well blanched, rounded to elongated and V-shaped cluster of leaves, closely drawn together, but rarely in a way to make a visible or distinct cabbage head, though innermost heart leaves curving inward over one another generally present a half-formed concealed cabbage-like head. Leaves very broad, much blistered, crumpled and twisted, extremely thick, stiff, and coarse, with large protruding midribs, serrate margins, and much developed and excessively frilled borders. Color very light green, never spotted nor brownish in any part. Quality fair; sweet, somewhat hard and coarse in texture. Seeds large, blackish.

Comparison.—Probably one of the four most largely planted varieties of the United States. Adapted to all parts of the country and grown everywhere, but less in the South than other sections. An especial favorite with Detroit, Chicago, and other western gardeners, who probably grow this variety more than any other. Distinctly a market gardener's sort, and, though of coarse quality, it is often the most satisfactory sort for home use, because no lettuce is more reliable and easily grown. It succeeds during summer when other sorts of more delicate quality are failures. A good shipper and formerly used extensively in the West for forcing, but now largely superseded for this purpose by Grand Rapids. Like this variety it is easily grown in greenhouses, and will stand a great deal of neglect in watering and ventilation. Black-Seeded Simpson is the same in usefulness and value as Bon Ton and Morse, and sometimes can not be identified unless grown by the side of them. Similar also to Early Curled Simpson, differing principally in being larger, lighter green, more dense in growth, and more attractive in appearance.

Synonyms.—Large Black-Seeded Simpson, Curled Black-Seeded Simpson, Early Black-Seeded Simpson, Early Curled Black-Seeded Simpson, Buckbee's Earliest Forcing, Longstreth's Earliest, Salzer's Earliest, Earliest Forcing, Earliest of All, First Early, Constitution.

Confusing names.—Early Curled Simpson, which is the same as White-Seeded Simpson.

History.—First listed by American seedsmen about twenty-four years ago. Peter Henderson & Co. claim to have first introduced the variety.

Illustrations.—A mature plant is shown on Plate I. The character of the leaf is shown by Early Curled Simpson, on Plate XXV, except that the size and shape are similar to Hanson, on Plate XXVI. The young plant is similar to Hanson, on Plate XXII, and the longitudinal section to White Star, on Plate XXI, except not quite so solid.

BLONDE BLOCK HEAD.

Listed by fifteen seedsmen. Seeds tested: Burpee, 1899-1903; Farquhar, 1901; Weeber & Don, 1900.

Comparison.—Little known or planted. Excepting slightly darker in color, sometimes upright in habit when young, and often forming an oval head, the description as well as usefulness and value seem to be the same as that of Hanson, and not sufficiently different from that well-known sort to be a very important variety.

Synonyms.—Blonde Beauty, Sunset, Golden Sunset.

Confusing names.—Golden Beauty, which is a wholly different type of lettuce.

History.—Introduced by Vilmorin-Andrieux & Co., of Paris, France, and first listed in this country about fourteen years ago.

Illustrations.—Same as for Hanson.

BON TON.

Listed by one seedsmen. Seeds tested: Josiah Livingston, 1899, 1900; Livingston, 1901-1903.

Comparison.—Little known or planted. Description same as Black-Seeded Simpson, and sometimes hardly distinguishable from it unless carefully compared. It is evidently a selection from that variety and superior to it in evenness of type, but also more solid, compact, lighter colored, smoother leaved, coarser frilled at borders, slower to shoot to seed, and at Washington larger in size, though reports of it from California and Michigan state it to be smaller. Usefulness and value same as Black-Seeded Simpson. Highly recommended for trial to both amateurs and market gardeners wherever Black-Seeded Simpson is liked, because for many soils and gardens it is undoubtedly a better variety.

Synonyms.—Livingston's Bon Ton.

History.—Named and introduced in 1896 by the Josiah Livingston Seed Co. After this firm discontinued business the variety was next first listed by Livingston Seed Store, of Columbus, Ohio.

Illustrations.—Same as for Black-Seeded Simpson.

BOSTON CURLED.

Listed by forty-six seedsmen. Seeds tested: Burpee, 1901-1903; Henderson, 1901; Landreth, 1899, 1900.

Description.—A decidedly crisp variety, strictly bunching, small, early-intermediate in season, wilts at once upon being pulled, shoots quickly to seed. Plant fairly compact, growing close to the ground and forming a very loose, rounded, or slightly flattened, very regular cluster of leaves, also somewhat opened or spread out in the center and never dense enough for blanching to any extent. Leaves broad and very regular in form, rarely blistered, never crumpled nor twisted, exceedingly thick, stiff, and hard. Veins many, coarse and conspicuous, margins finely serrate, borders excessively frilled and embracing nearly the whole of the visible portion of the plant. Color, medium green, never spotted nor brownish in any part. Quality very poor; tough in texture, and of a rank, wild flavor, wholly lacking sweetness. Seeds small, very blackish.

Comparison.—Very little planted. A novel and very pretty fringed lettuce, curly like an endive, but on account of its poor quality, small size, and its wilting immediately upon being pulled, it is of little use except for garnishing or ornament. One of the first varieties to shoot to seed in hot weather, but remaining fit for use a long time in the autumn or in cool weather. Stands more cold than any other variety, excepting possibly Green-Fringed. By far the most deeply fringed and curly lettuce in cultivation. Grand Rapids is perhaps most like it in these qualities and in habit

of growth, but very different in usefulness and value. Like that variety, the seeds are very hard to germinate.

Synonyms.—Boston Early Curled, Boston Fine Curled, Boston Extra Fine Curled.

Confusing names.—Big Boston, Boston Market, Large Boston Market, Boston Hot-house, Boston Glasshouse, Boston Forcing, and Boston Forcing Tennis Ball White-Seeded, all different types from Boston Curled.

History.—James J. H. Gregory & Son claim to have first introduced this variety. It has been listed by them for at least thirty-nine years.

Illustrations.—The variety is shown on Plates VII and XXIII.

BRIGGS' FORCING AND GARDEN.

Listed by one seedsman. Seeds tested: Briggs, 1901–1903.

Description.—A decidedly butter variety, strictly cabbage-heading, medium in size, early in season, and quickly shooting to seed. Plant compact and forming a globular or sometimes slightly elongated, firm, well-defined, well-blanced head, with leaves very flatly overlapping one another. Leaves broad in shape, fairly blistered, crumpled, and twisted, thin and soft, their margins entire and borders flat. Color, light green; never spotted nor brownish in any part. Quality good; soft in texture, mild, delicate, buttery in flavor. Seeds whitish.

Comparison.—Little known or planted. Very similar to Reichner and Philadelphia Butter, and sometimes hardly distinguishable from them. A strictly forcing sort of apparent merit, though at Washington it has not proved as reliable as the above varieties, and it is not sufficiently different from them to be a very important lettuce.

History.—Apparently named and first listed by Briggs Bros. & Co. The name seems never to have been used by other seedsmen except in 1902 by J. M. Thorburn & Co.

Illustrations.—Same as for Reichner.

BRITTLE ICE.

Listed by one seedsman. Seeds tested: Burpee, 1903.

Comparison.—New, and as yet grown in this country only in an experimental way. Same general character and usefulness as Malta. Further trials are necessary before it can be determined in what respect, if any, it differs from that variety or other similar sorts like Dammann's Ice.

History.—Named and first introduced in this country in 1903 by W. Atlee Burpee & Co., who state the lettuce came from Australia.

Illustrations.—Same as for Malta.

BROWN DUTCH BLACK-SEEDED.

Listed by forty seedsmen. Seeds tested: Ferry, 1900–1903; Landreth, 1899, 1901; Thorburn, 1901.

Description.—A decidedly butter variety, strictly cabbage-heading, medium-large in size, late-intermediate in season and in time of shooting to seed. Young plant very regular in habit, its leaves very straight and extending flatly over the ground. Mature plant low growing, very spreading, and forming a globular, fairly defined, firm, well-blanced head with leaves closely overlapping one another. Leaves broad in shape, fairly blistered, crumpled, twisted, thick, and stiff, entire at margins, flat at borders. Color medium dull green, tinged with dull faint brown and sometimes colored a decided brown in well-defined blotches but never distinctly spotted; border no more colored than other parts, inner head leaves wholly green, stem and base of midribs plainly colored. Quality fair; sweet and decidedly buttery in flavor, fairly tender. Seeds blackish.

Comparison.—One of the lesser grown varieties. Not generally valuable and best known for its extreme hardiness to cold. Long recognized as one of the best for wintering over outdoors. Though not quick to shoot to seed it never seems to grow well during summer or hot weather. At Washington it has done well in the autumn, but very poorly in the spring. Not recommended except under special circumstances or in an experimental way. More like Brown Genoa than other varieties, differing from it in no pronounced respect except freedom from spots. Similar also to Brown Dutch White-Seeded and Shotwell's Brown Head (Bridgeman). It differs principally from the former in being more brownish in color, slightly larger, and more spreading, and from the latter in being free of spots. The dull brownish color of these four sorts is quite distinct.

Synonym.—Batavian Brown Dutch.

History.—One of the oldest American varieties. Known in this country for at least ninety-eight years.

Illustrations.—A well-grown plant will make a head as solid as Emperor William, on Plate IX, or even nearly as perfect as California Cream Butter, on Plate VIII, but generally the plants are more loose in habit than shown in these illustrations. A leaf would be fairly represented by that of Deacon, on Plate XXIII, only more crumpled and blistered. A young plant is almost as spreading as that of All Seasons, on Plate XXII.

BROWN DUTCH WHITE-SEEDED.

Listed by one seedsman. Seeds tested: Farquhar, 1901-1903.

Comparison.—Scarce, and little known or planted. Usefulness and value same as Brown Dutch Black-Seeded, and not sufficiently different from it to be an important variety. Excepting in color of seeds, the description already given of the latter variety applies also to this lettuce, though Brown Dutch White-Seeded is not quite so brown in color nor so large in size, and somewhat more compact in habit and blistered in the leaves.

History.—Known in this country for at least fifty-three years.

Illustrations.—Same as for Brown Dutch Black-Seeded.

BROWN GENOA.

Listed by one seedsman. Seeds tested: Gregory, 1899-1903.

Comparison.—Scarce, and little known or planted. Usefulness and value same as Brown Dutch Black-Seeded, and not sufficiently different from that well-known sort to be an important variety. The description is the same, except that Brown Genoa is distinctly spotted on the outside and sparingly so on the inside leaves. It is also distinguished from Brown Dutch Black-Seeded in being not quite so brownish in color, a little larger in size, and more spreading in habit.

History.—Listed in 1874 by James J. H. Gregory & Son, who write that the variety probably came from Vilmorin-Andrieux & Co., of France.

Illustrations.—Same as for Brown Dutch Black-Seeded.

BROWN HEAD.

Listed by three seedsman. Seeds tested: Dallwig, 1899-1903; Koerner, 1900; Rawson, 1900-1903; Weber, 1903.

Description.—A decidedly buttery variety, strictly cabbage-heading, large, medium in size, late, slow to shoot to seed. Plant loose, very spreading, and forming a globular, fairly defined, soft, well-blanced head with leaves completely but very loosely overlapping one another. Leaves unusually broad, cup-shaped when young, much blistered and crumpled, slightly twisted, somewhat thin and limp, entire at margins, flat at border. Color bright brown, interspersed in a very striking manner with

bright green in less exposed or depressed parts and thereby exhibiting to good advantage the blistered character of the plant; inner head leaves, stem of plant, and base of midrib wholly green; no part of plant plainly spotted. Quality good; sweet and buttery in flavor, soft in texture, but leaves thin and lacking substance. Seeds whitish.

Comparison.—One of the lesser grown varieties. Suitable for summer. Wholly unfit for forcing, too deep brown in color, loose in habit, and too soft a head to be recommended for market gardeners. Sometimes attractive to amateurs on account of its brilliant color and showy heads and, except Red Besson, the most brilliant red-colored lettuce known in America. It is more like Red Besson than any other and differs principally in being less colored, thicker leaved, and smaller. It next most resembles Shotwell's Brown Head (brownish or common type).

Synonyms.—Weber's Brown Head, Hard Head, Burpee's Hard Head, Buckbee's Surprise, Surprise.

Confusing names.—Shotwell's Brown Head, Batavian Brown Head, Bronzed Head, Hartford Bronzed Head, Bronzed Curled, Bronzed Red, Brown Curled, and Beckert's Brown Curled, all different types from Brown Head.

History.—Listed by W. E. Dallwig for at least eleven years and by W. W. Rawson & Co. in 1898.

Illustrations.—The habit of the mature plant is well shown by Red Besson, on Plate XIII; the leaf by Tennis Ball Black-Seeded, on Plate XXIII, and, excepting for being much softer, the longitudinal section by Matador, on Plate XX.

BURPEE'S BUTTER HEAD.

Listed by one seedsman. Seeds tested: Burpee, 1903.

Description.—New and as yet grown in this country only in an experimental way. Same general character and usefulness as Large Yellow Market and Paris Sugar and possibly identical with one of them. Further trials are necessary before the differences can be fully made out. The originator describes the plants to be fully as large as Maximum and often 12 inches in diameter.

History.—Named and introduced in 1903 by W. Atlee Burpee & Co., and said by them to have originated in England.

Illustrations.—Same as for Large Yellow Market.

BUTTERCUP.

Listed by thirty-five seedsmen. Seeds tested: Farquhar, 1901; Ferry, 1900, 1901, 1903; Plant, 1899, 1900; Schisler-Corneli, 1899; Thorburn, 1899, 1901, 1902; Vaughan, 1901.

Description.—A decidedly butter variety, strictly cabbage-heading, small-medium in size, late-intermediate in season, very slow to shoot to seed. Plant fairly compact and forming a globular, firm, well-defined, well-blanced head with leaves closely overlapping one another. Leaves broad in shape, fairly blistered and crumpled, slightly twisted, thin, almost loose and limp, entire at margins, flat at borders. Color very light green, sometimes described as golden green, never spotted nor brownish in any part. Quality fair; delicate, sweet, buttery flavor, soft texture. Seeds whitish.

Comparison.—One of the lesser grown varieties and not generally valuable, but it is sometimes attractive to amateurs because of its beautiful color, which is the lightest green and most yellow of any lettuce in cultivation. Makes good heads in some localities and seasons, but not generally doing so at Washington or most other places. In hot weather the outside leaves often change to a faded, sickly yellow, so that the color is sometimes one of its bad features rather than its principal merit. The general character of its leaves and habit of growth is the same as the Tennis

Ball Black-Seeded. Excepting a foreign sort known as *Blonde de Berlin* there seems to be no other variety like it in color, and for this reason it is seldom confounded with other types.

Synonyms.—Golden Buttercup, Golden Ball, Northrup, King & Co.'s Golden Ball, Michell's Very Best, Rudolph's Favorite.

History.—First listed by American seedsmen about eighteen years ago and said to be of German origin.

Illustrations.—The mature plant is similar in habit to that of California Cream Butter, on Plate VIII, differing from it in being much smaller, more blistered in the leaves, and with heads much less developed. The leaf is similar to that of Tennis Ball Black-Seeded, on Plate XXIII, and the longitudinal section to Mette's Forcing, on Plate XIX, excepting not nearly so solid or perfect a head.

CALIFORNIA ALL HEART.

Listed by five seedsmen. Seeds tested: Alneer, 1899–1901, 1903.

Reputed to be distinct when first listed about ten years ago, but now very rarely catalogued by seedsmen, and as received here never the same in any one year, the samples obtained being identified as Chartier, Hanson, or Early Curled Simpson. The original and correct type is described as a coarse, crisp head, similar to Denver Market.

Confusing names.—All Heart as introduced by Henry A. Dreer and sometimes sold as Dreer's All Heart is a different type from California All Heart.

History.—Said to have originated with a seed grower of Santa Clara, Cal., about fourteen years ago.

CALIFORNIA CREAM BUTTER.

Listed by ninety-seven seedsmen. Seeds tested: Burpee, 1900–1902; Ferry, 1900, 1901; Germain, 1901; Johnson & Stokes, 1900; Landreth, 1899, 1901; Rice, 1903; Thorburn, 1903.

Description.—A decidedly butter variety, strictly cabbage-heading, large, late-intermediate in season, slow to shoot to seed. Plant fairly compact and forming a globular, very firm, well-defined, well-blanced head, with leaves very closely overlapping one another. Leaves broad in shape, blistered, and crumpled, slightly twisted, fairly stiff, very thick, entire at margins, flat, or partly blistered at borders. Color dark, rich, glossy green, freely and distinctly spotted with deep brown as well as partly tinged in places, especially at or near the border of leaves. Stem of plant and inner head leaves never colored. Quality excellent; very buttery, fairly sweet, and with thick soft leaves of much substance. Seeds blackish, generally more brownish black than other blackish-seeded sorts and seeds often described as brown.

Comparison.—One of the ten most largely grown varieties of the United States. Planted in all parts of the country, but more especially in California and the South. This variety and Big Boston are the kinds used almost exclusively by southern gardeners to grow during winter for shipment to northern markets. Succeeds well everywhere and at all times of the year. A good shipper, very hardy to cold, stands over winter well, and is especially good for summer, but not suited for indoor culture. Recommended to private gardeners as one of the most buttery flavored and best in quality of all varieties and to market gardeners as one of the best for their purpose also. Similar in color to Tennis Ball White-Seeded and Victoria Red-Edged. In places where Passion does well it closely resembles that variety. Same habit and general value as White Chavigne.

Synonyms.—Cox's California Cream Butter, Cream Butter, German Butter, Maule's Philadelphia Butter, Bolgiano's Early Spring, Early Spring, New Orleans Large Passion, Summer Drum Head, Treasure.

Confusing names.—California All Heart, California Curled, California Giant White Forcing, California Passion, all different types from California Cream Butter.

History.—Named and introduced by W. Atlee Burpee & Co. in 1888. It is evidently the variety which was well known about that time in California as Royal Summer Cabbage.

Illustrations.—A mature plant of the variety is shown on Plate VIII. The longitudinal section is similar to that of Matador, on Plate XX, differing principally in being much larger and more solid. The leaf is about between that of Tennis Ball Black-Seeded and Deacon, both shown on Plate XXIII.

CHARTIER.

Listed by four seedsmen. Seeds tested: Ebeling, 1900, 1901; Leonard, 1901, 1902; Scott, 1899, 1900, 1903; Vaughan, 1899-1901.

Description.—A decidedly crisp variety, cabbage-heading, large, late in season, and time of shooting to seed. Plant long-stemmed, somewhat spreading and loose, and forming a globular, well-defined, firm, well-blanchéd, showy head, with leaves closely overlapping one another. Leaves broad in shape, fairly blistered, and crumpled, thick, and stiff, very little twisted, serrate at margins, frilled at borders. Color a distinct medium bright brown, varying to bright green in less exposed parts and top of head; border plainly marked with deeper brown than other parts of leaves, no part of plant, however, distinctly spotted; inner head leaves and stem of plant wholly green. Quality fair; very crisp, hard in texture, decidedly lacking in sweetness and delicacy. Seeds large, whitish.

Comparison.—Very little grown. At one time highly recommended at Pittsburg and Chicago, but now it seems to be little heard of. Suitable as a summer or market gardener's sort for certain soils and climates. In some places and seasons it makes an immense, showy head, but it is a very uncertain variety and the head is often soft or even bunched in growth. It sometimes forms a head as large and as showy as Hanson, but never so solid or hard; wholly unfit for forcing. Other sorts of better quality are recommended for home use. Market gardeners are advised to test it before making very large plantings. The color of the plants is perhaps most like Onondaga or Prize Head. The brown is not so abundant nor so dark as in these varieties. The leaves are similar, also, but decidedly less blistered, crumpled, and frilled in character.

Synonyms.—Brown Chartier, Pink Chartier, Brown Curled, Beckert's Brown Curled, Bronzed Curled.

History.—Listed by W. C. Beckert for at least thirteen years.

Illustrations.—When well grown the plant may resemble Hanson, on Plate I. The young plant and leaf are similar to Hanson, on Plates XXII and XXVI, respectively.

CHICAGO FORCING.

Listed by one seedsmen. Seeds tested: Vaughan, 1899-1901.

Comparison.—Of same class as Grand Rapids, differing in being much earlier, smaller, finer blistered, crumpled, and frilled, and running to seed at once when planted outdoors. Formerly used for growing under glass in the same way as Grand Rapids, but not now often listed by seedsmen. Apparently almost wholly gone out of use.

History.—Introduced about 1885 by Vaughan's Seed Store but not listed by that house after 1899. It is said to have originated with a Mr. Walters, who is described as a careful grower of lettuce under cold frames.

COLD FRAME WHITE CABBAGE.

Listed by five seedsmen. Seeds tested: Thorburn, 1901-1903; Weeber & Don, 1902, 1903.

Description.—A decidedly butter variety, strictly cabbage-heading, medium in size, early-intermediate in season, and shooting to seed at an intermediate date. Plant somewhat compact and forming a globular, well-defined, firm, well-blanced head, with its leaves closely overlapping one another. Leaves somewhat cup-shaped when young, broad when mature, fairly blistered, crumpled, thick, and stiff, entire at margins, flat at borders. Color medium green, fairly tinged in places with light brown, never spotted, and inner head leaves and stem of plant never colored. Quality good; sweet, very buttery, soft in texture. Seeds whitish.

Comparison.—Very little known and planted. Strictly a market gardeners' sort and excellent for forcing, early spring, or late fall planting. Not suited for summer. Perhaps more like Victoria Red-Edged than any other variety; in fact, at times the two seem identical. Also similar to Yellow Winter, St. Louis Black-Seeded Forcing, and Tennis Ball White-Seeded.

History.—Apparently named and introduced by J. M. Thorburn & Co., who have listed it for at least ten years.

Illustrations.—The habit of the mature plant is fairly represented by that of California Cream Butter on Plate VIII, the longitudinal section by Matador, on Plate XX, and the leaf between that of Deacon and Tennis Ball Black-Seeded, both shown on Plate XXIII.

CRUMPLED-LEAVED.

Listed by five seedsmen. Seeds tested: Burwell, 1900; Rawson, 1899, 1901-1903.

Description.—A decidedly butter variety, strictly cabbage-heading, early-medium in size, and shooting to seed at an early-intermediate date. Plant very compact and forming a globular, somewhat indistinctly defined, firm, well-blanced head, with its leaves closely overlapping one another except their borders characteristically twisted and turned backward, and leaf arrangement very irregular. Leaves broad in shape, fairly blistered, crumpled, thick, and stiff, obscurely crenate at margins, undulate at borders. Color very dull medium green, tinged with brown in places, sometimes over large areas and in distinct blotches, but never distinctly spotted, and inner head leaves and stem of plant wholly green. Quality good; sweet and buttery in flavor, soft in texture. Seeds whitish.

Comparison.—One of the lesser-grown varieties of the United States. Little used or planted except around Boston and in New England, where it is largely planted in greenhouses. Suitable only for forcing. The largest of the large type of lettuce now used by New England and other greenhouse men who formerly grew only the smaller Boston Market variety for inside culture. Undoubtedly a most valuable sort and highly recommended. It is claimed for it that decay in the heart is almost unknown, and that it is a fine shipper, sure header, and very reliable. Quite different in appearance from any other sort, but perhaps more like Big Boston than any other. Tennis Ball White-Seeded, Hittenger's Belmont, and Hothouse are closely related sorts.

Synonyms.—Rawson's Crumpled-Leaved.

History.—Named and introduced by W. W. Rawson & Co. in 1899, and said to have originated in their greenhouses at Arlington, Mass.

Illustrations.—The mature plant is not well represented by any of the following illustrations, but is perhaps best shown by Big Boston, on Plate V, and California Cream Butter, on Plate VIII. The leaf is most like Big Boston, on Plate XXIV. The longitudinal section is almost as solid as that represented by Mette's Forcing, on Plate XIX, though in habit it somewhat resembles Tom Thumb, on the same plate.

DAMMANN'S ICE.

Listed by one seedsman. Seeds tested: Ewing, 1902, 1903.

Comparison.—Listed in America only by Canadian seedsmen. Not known or sold in the United States. Same general character and usefulness as Malta and hardly distinguishable from it. Further trials are necessary before the exact differences can be fully determined.

History.—Apparently first listed in America by Wm. Ewing & Co. in 1902.

Illustrations.—Same as for Malta.

DEACON.

Listed by one hundred seedsmen. Seeds tested: Burpee, 1899–1901; Robert Evans, 1899; Farquhar, 1901; Ferry, 1900, 1901; Henderson, 1900, 1901; Landreth, 1901; Thorburn, 1901–1903.

Description.—A decidedly butter variety, strictly cabbage-heading, large-medium in size, intermediate in season, slow to shoot to seed. Young plant very spreading, regular in growth, its leaves very straight and extending flatly over the ground. Mature plant fairly compact. Head elongated when first forming, globular or even flattened when fully developed, fairly firm, well defined, very well blanched, and its leaves very completely but loosely overlapping one another, but outer ones of plant well separated from the head proper, the latter thereby left very bare or exposed. Leaves broad, peculiarly smooth, though sometimes slightly blistered and crumpled, never twisted, unusually thick in appearance, but soft and limp rather than stiff, entire at margins, flat at borders. Color a peculiar light grayish green, never spotted nor brownish in any part. Quality excellent; sweet, decidedly buttery in flavor, and with thick, soft leaves of much substance. Seeds whitish.

Comparison.—One of the ten most largely planted varieties of the United States and grown everywhere. Especially popular with the market gardeners of St. Louis, Chicago, and the West, where it is largely sold as St. Louis Butter. Stands summer well, sure heading, very reliable, and always attractive. A few greenhouse men have tried it in a small experimental way under glass and reported it as the best of the cabbage-heading varieties for forcing, and as more free from rot than any other, though we have never known of its being used in a commercial way for forcing. It is a splendid market gardener's lettuce and, because of its high quality and easy culture, one of the very best for home use. Peculiarly light grayish green in color and not likely to be confounded with other variety types, except All Seasons and Asiatic, both of which it closely resembles. Reichner, Silver Ball, and Philadelphia Butter are also similar sorts. The variety belongs to the same class and possesses the same general value as California Cream Butter, White Summer Cabbage, and Tennis Ball Black-Seeded.

Synonyms.—A Australian White Triumph, Big Head, Bolgiano's Big Head, Bolgiano's Golden Heart, Colossal, Tait's Colossal, Largest of All, Large Drum Head, Golden Gate, Summer Gem, Moore's Summer Gem, San Francisco Market, Sunlight, St. Louis Butter, Salzer's Sunlight, Summer Queen Drum Head, Triumph, White Russian, Russian.

History.—Named and introduced by the Joseph Harris Co. in 1879.

Illustrations.—A mature plant and leaf of the variety are shown on Plates X and XXIII, respectively. The longitudinal section is similar to that of Matador, on Plate XX, and the young plant to All Seasons, on Plate XXII.

DEFIANCE.

Listed by thirty-two seedsmen. Seeds tested: Dallwig, 1903; Dreer, 1903; Farquhar, 1901, 1903; Gregory, 1900, 1903; Johnson & Stokes, 1899, 1901; Leonard, 1903; Livingston, 1901; Michell, 1901, 1903; Rawson, 1903; Rice, 1902; Vaughan, 1900.

Description.—A decidedly butter variety, strictly cabbage-heading, large, medium in size, late-intermediate in season, very slow to shoot to seed. Young plant very upright growing, with long spatulate-shaped, twisted leaves of loose and limp growth. Mature plant slightly spreading and forming a globular, imperfectly defined, firm, well-blanching head, with its leaves very loosely and irregularly overlapping one another. Leaves of mature plant also broad in shape, fairly blistered, crumpled, thick, and stiff, entire at margins, flat at borders. Color medium green, freely spotted, tinged light brown in places, but inner head leaves, stem of plant, and base of midrib wholly green. Quality good; very buttery, fairly sweet in flavor, soft in texture. Seeds very broad, whitish.

Comparison.—One of the lesser grown varieties of the United States. Excellent for summer growing, but not as reliable for this purpose as some other cabbage sorts, like California Cream Butter and Black-Seeded Tennis Ball. The head is too irregular in shape and imperfect to be attractive, and the variety can not be very highly recommended except for its heat-resisting qualities. Not suited for forcing. Very similar to Emperor William, German Incomparable, and St. Louis Black-Seeded Forcing. The exact differences between Defiance and Emperor William have not yet been made out by the writer, except that the latter variety is dullest green in color.

Synonyms.—Always Ready, Perpignan, Plant Seed Company's Standwell, Standwell, Slow Seeder, Stubborn Seeder.

Confusing name.—Manns' Defiance Summer, a very different type of lettuce.

History.—First listed by American seedsmen about sixteen years ago and described at that time as an improvement on Perpignan.

Illustrations.—The habit of the mature plant is similar to that shown of Emperor William on Plate IX, and the leaf is perhaps most like Tennis Ball Black-Seeded of the kinds illustrated.

DENSITY.

Listed by one seedsman. Seeds tested: Henderson, 1902, 1903.

Description.—A fairly crisp variety, strictly cabbage-heading, very small, very early, and soon forming a seed stalk, but for an extra early sort very slow to shoot to seed. Plant remarkably compact and forming a globular, extremely hard, very well blanched head, with its leaves tightly drawn over one another, but their borders so twisted and turned as to produce a torn effect or bursted-like head; no distinct separation between head proper and outer leaves of plant, the whole being nearly all head. Leaves broad in shape, excessively blistered, crumpled, and twisted, very thick and stiff, finely serrate at margins, frilled at borders. Color dark dull green, with a narrow, faint dull brown border, and generally sparingly tinged with faint dull brown in exposed parts; never spotted; inner head leaves and stem of plant wholly green. Quality excellent; exceedingly sweet, tender, and fine flavored. Seeds small, whitish.

Comparison.—New and as yet used in this country for experimental plantings only. Of the very best in quality and slower to shoot to seed than other varieties of equal earliness, but too small to be of much value, except, perhaps, for forcing in frames. Amateurs may find the variety interesting, but for real usefulness the Mignonette variety is decidedly better. Excepting for color and size, it is very much like Mignonette, but otherwise it is very distinct and not easily confounded with that or any other variety.

Synonym.—Miniature.

History.—Named and first introduced by Peter Henderson & Co. in 1902.

Illustrations.—A mature plant of the variety is shown on Plate VII. The side view of Mignonette on the same plate also illustrates the type. The longitudinal section resembles that of Tom Thumb on Plate XIX.

DENVER MARKET.

Listed by one hundred and twenty-three seedsmen. Seeds tested: Barteldes, 1902; Burpee, 1901-1903; Ferry, 1899-1901; Thorburn, 1901-1903.

Description.—A decidedly crisp variety, fairly cabbage-heading, large, medium in size, late-intermediate in season, very slow to shoot to seed. Plant compact or slightly spreading, upright in habit, and forming an oval, firm, or somewhat soft, well blanched, well defined head, with its leaves closely overlapping one another, while the outer leaves of the plant are often so separated from the head proper as to leave the latter very bare or exposed. Leaves short spatulate in shape, excessively blistered and crumpled, fairly twisted and stiff, very thick, finely serrate at margins, excessively frilled at borders. Color very light green, never spotted nor brownish in any part. Quality poor; hard in texture, coarse and rank in flavor, or at least lacking sweetness and delicacy. Seeds large, whitish.

Comparison.—A popular variety in the United States, though not one of the ten most largely grown sorts. Best known in the Middle West, where it is a favorite for forcing, but not now so largely grown under glass as formerly. A satisfactory market gardener's lettuce, and good for summer. On account of its poor quality not recommended to private gardeners. The most blistered and crumpled leaved of all varieties, and this, together with its beautiful color, makes it one of the most handsome lettuces in cultivation. Very distinct and hardly comparable with other varieties. Perhaps more like Hanson than any other variety, but not closely resembling it, as sometimes described.

Synonyms.—Denver Market Forcing, Barteldes Denver Market, Kansas City Market, Kansas City White-Seeded Forcing, Dayton Market, Cincinnati Market, Early Ohio, Ohio Cabbage, Golden Forcing, Sutton's Favorite, Ritter's Forcing, Weber's Curled.

History.—Introduced by F. Barteldes & Co. in 1890.

Illustrations.—The mature plant is not well shown by any of the illustrations, but the habit may be described as between that of Hanson and Black-Seeded Simpson on Plate I, though the variety is much more blistered in the leaf and the heads are more elongated than shown in either of these illustrations. A leaf of the variety is shown on Plate XXVI. The young plant is similar to that shown of Hanson, on Plate XXII.

DETROIT MARKET GARDENER'S FORCING.

Listed by three seedsmen. Seeds tested: Burpee, 1901; Ferry, 1899-1903.

Description.—A decidedly crisp variety, bunching under glass, but semicabbage-heading outdoors, large, late-intermediate in season, slow to shoot to seed. Plant compact, upright in habit, sometimes forming a tallish, dense bunch of leaves, but more generally when well grown outdoors forming an oval, somewhat pointed head, hard and well blanched, its outside leaves tightly and flatly overlapping one another at their lower part, but turning loosely outward at their uppermost portion, and thereby surrounding the head with a loose leaf growth and much obscuring it. Leaves broad in shape, fairly blistered, crumpled and twisted, very thick, stiff, and coarse in appearance, with heavy veins and a large protruding midrib, finely serrate margins, and excessively frilled borders. Color a distinct very light green, never spotted nor brownish in any part. Quality good; crisp and firm in texture, sweet in flavor. Seeds large, whitish.

Comparison.—Popular around Detroit and parts of Michigan, but little planted or known elsewhere. With Grand Rapids, Black-Seeded Simpson, and White Star it comprises one of the four most largely grown varieties used for forcing around Detroit. Claimed to stand more heat and to be forced quicker to maturity than any other variety of the same size. Three crops are raised in the time required for growing

two of othersorts. Strictly a market gardener's variety and good for summer growing. Not recommended for home use. When grown under glass it is very similar to Black-Seeded Simpson and Grand Rapids Forcing, but outdoors the habit is very distinct, and perhaps more like Hanson than any other. The color also is peculiar, and perhaps the lightest green of the crisp sorts.

Synonyms.—Engel's Forcing, Wallbauer.

History.—Named and introduced by D. M. Ferry & Co. in 1895.

Illustrations.—A mature plant of the variety is shown on Plate IX. The young plant and leaf are similar to those shown of Hanson on Plates XXII and XXVI, respectively.

DWARF WHITE HEART COS.

Listed by six seedsmen. Seeds tested: Burpee, 1899, 1901-1903.

Comparison.—Scarce and rarely planted. Except that it is more dwarf in habit, very similar to Paris White Cos, and probably the same in usefulness and value. Further trials are necessary before all the differences can be definitely stated.

History.—Named and introduced into this country in 1895 by W. Atlee Burpee & Co. It is said by them to be a foreign sort.

Illustrations.—Similar to that of Paris White Cos.

EARLIEST CUTTING.

Listed by one seedsman. Seeds tested: Dallwig, 1900-1903.

Description.—A decidedly butter variety, strictly bunching, small-medium in size, early-intermediate in season, shooting to seed at an intermediate date. Plant decidedly loose and straggling and leaves too few for blanching to any extent. Leaves spatulate in form, decidedly cup-shaped, very smooth, never blistered, crumpled, nor twisted, fairly thick, very limp, entire at margins, flat at borders. Color light green, never spotted nor brownish in any part. Quality fair; slightly buttery, soft in texture, but much lacking in delicacy and sweetness. Seeds whitish.

Comparison.—Scarce and rarely planted in the United States. One of the most loose-leaved, straggling, unattractive varieties tested at Washington. It furnished only a few leaves and seemed wholly undesirable in every way. Possibly a good sort in other countries, but wholly undesirable in this locality. Very distinct and hardly comparable with any other variety. The most loose-leaved of the cabbage varieties and its leaves more incurved than any other lettuce.

Confusing names.—Earliest of All and Earliest Forcing, both different types from Earliest Cutting.

History.—First listed in this country by W. E. Dallwig, who states the seed was obtained in Germany.

Illustrations.—A mature plant and leaf of the variety are shown on Plates VIII and XXIII, respectively.

EARLY CURLED SILESIA.

Listed by one hundred seedsmen. Seeds tested: Barteldes, 1901; Bowen, 1901; Buist, 1901; Burpee, 1900-1902; Ferry, 1899; Johnson & Stokes, 1901; Landreth, 1899, 1902; J. M. McCullough, 1901; Price & Reed, 1901; Thorburn, 1903; Vaughan, 1901.

Description.—As known in this country about fifteen years ago, this variety was distinct from Early Curled Simpson, being narrow-leaved and more open in habit, but to-day the latter variety seems to be used almost wholly in filling orders for Early Curled Silesia, so that the type as formerly known seems to be very scarce or possibly wholly gone out of use.

History.—Known in this country for at least seventy-four years and in European countries for a much longer time. Apparently one of the first varieties cultivated.

EARLY CURLED SIMPSON.

Listed by one hundred and forty seedsmen. Seeds tested: Barteldes, 1901; Buist, 1901; Burpee, 1901; Farquhar, 1901; Ferry, 1900, 1901; Henderson, 1901; Johnson & Stokes, 1899; Landreth, 1903; Price, 1901; Tait, 1901; Thorburn, 1899, 1901, 1903.

Description.—A decidedly crisp variety, strictly bunching, large-medium in size, early marketable but intermediate in time of attaining fullest development, slow to shoot to seed. Plant spreading and forming a rounded to low V-shaped, well-blanced, fairly dense cluster of leaves, more or less open or spread out at the center and never cabbage-like, though sometimes very dense. Leaves short spatulate to broad, much blistered and crumpled, fairly twisted, thick and stiff, serrate at margins, much developed and frilled at borders. Color, very light green; never spotted nor brownish in any part. Quality fair; sweet in flavor, somewhat hard and coarse in texture. Seeds large, whitish.

Comparison.—Under this or some other name one of the ten most largely used lettuce types of the United States. About thirty years ago more largely planted than any other. Grown in all parts of this country, but less in the South than other parts, and more used in the West than in other sections. Its wide use is due to its reliability, as it is certain, even under hard treatment, to make some good leaves. For this reason it is often one of the most satisfactory varieties for home use, though where lettuce can be well grown other sorts of more delicate flavor are recommended to the amateur. Possibly under some conditions more satisfactory than Black-Seeded Simpson or any other variety of its class, but for general use the former variety or Morse is more satisfactory. These two varieties and Golden Curled more closely resemble it than other sorts.

Synonyms.—Early Curled White-Seeded Simpson, Early White-Seeded Simpson, White-Seeded Simpson, Perpetual, Crisp and Tender, La Crosse Market.

Confusing names.—Black-Seeded Simpson, Early Curled Black-Seeded Simpson.

History.—Listed by seedsmen in this country for at least thirty-nine years. Said to have originated with Mr. Simpson, a market gardener near Brooklyn, N. Y.

Illustrations.—A mature plant and leaf of the variety are shown on Plates IV and XXV, respectively. The young plant is similar to that of Hanson, on Plate XXII.

EMPEROR FORCING.

Listed by five seedsmen. Seeds tested: Bridgeman, 1901; Michell, 1900; Thorburn, 1899–1903.

Description.—A decidedly butter variety, strictly cabbage-heading, very small, extremely early, and shooting to seed at once in hot weather. Plant very compact and forming a globular, firm, well-defined, well-blanced head, with its leaves flatly and completely overlapping one another. Leaves broad in shape, blistered, crumpled, little twisted, fairly stiff and thick, entire at margins, flat or partly blistered at borders. Color, medium green; never spotted nor brownish in any part. Quality good; sweet, buttery in flavor, soft in texture. Seeds very small, whitish.

Comparison.—Little known or planted. Suitable only for forcing and being the earliest, smallest, and most compact of all varieties except perhaps White Forcing it would seem to be the best suited for cold frames or hotbed culture, but decidedly too small for general greenhouse use. Wholly unfit for amateurs or for outdoor culture. The plant may be described as a miniature Hubbard's Market. Same exactly as that variety in habit and also similar to Lee's Market Forcing.

Synonym.—Precocity.

Confusing name.—Emperor William, which is a very different type of lettuce.

History.—Apparently first listed in this country in 1881 by James J. H. Gregory & Son, who described it in their catalogue of that year as of German origin.

Illustrations.—The habit of the variety is well illustrated by California Cream Butter, on Plate VIII, but the size is about same as White Forcing, on Plate VII. The longitudinal section is similar to Mette's Forcing, on Plate XIX, and the leaf to Tennis Ball Black-Seeded, on Plate XXIII, but less blistered.

EMPEROR WILLIAM.

Listed by two seedsmen. Seeds tested: Stumpf & Walter, 1902; Thorburn, 1902, 1903.

Description.—A decidedly butter variety, strictly cabbage-heading, large-medium in size, intermediate in season, slow to shoot to seed. Plant spreading, loose, and forming a globular, imperfectly defined, somewhat firm, well blanched head, with leaves very imperfectly and loosely overlapping one another. Leaves broad in shape, fairly blistered, crumpled, thick, and stiff, entire at margins, flat at borders. Color medium dull green, fairly spotted, sparingly tinged in places with faint brown, inner head leaves and stem of plant wholly green. Quality good; very buttery, fairly sweet, soft in texture. Seeds blackish.

Comparison.—New and probably not yet planted in this country except in an experimental way. Its value for our climate has not yet been proved at Washington nor in any other place so far as known by the writer. It seems to be useful in the same way as Defiance, and more closely resembles that sort than any other. Similar also to German Incomparable and St. Louis Black-Seeded Forcing.

Confusing name.—Emperor Forcing, a very different type of lettuce.

History.—First introduced in this country by J. M. Thorburn & Co. and Stumpf & Walter, who describe it as of European origin.

Illustrations.—A mature plant of the variety is shown on Plate IX. The leaf is similar to but less blistered than that shown of Tennis Ball Black-Seeded, on Plate XXIII.

EUREKA.

Listed by one seedsmen. Seeds tested: Crosman, 1900-1903.

Description.—A decidedly butter variety, cabbage-heading, very large, unusually late, slow to shoot to seed. Plant extremely loose, very spreading, and forming a globular, fairly-defined, very soft, well-blanced head, with leaves regularly and completely overlapping one another, but with loose spaces between them. Leaves broad in shape, much blistered and crumpled, little twisted, thin, almost limp, obscurely crenate at margins, broadly undulate at borders. Color very bright brown, of a distinct shade, and interspersed with light green in less exposed parts, most deeply colored at borders, very sparingly spotted, stem of plant and base of midrib light pink in color, inner heart leaves sparingly spotted but not otherwise colored. Quality fair; sweet, buttery, fairly soft in texture. Seeds yellowish.

Comparison.—Scarce and rarely planted. It forms a large, showy head when well grown, but is very unreliable, sometimes more open in growth than any other butter variety and making no head whatever. Even at its best very loose in habit and heads always very soft. Of little practical value, but attractive to some amateurs because of its occasional large, showy heads and peculiar brilliant red color. Perhaps more like Vick's Hero than other American varieties, though far more even and reliable than that sort.

Synonyms.—Copper Head, Pan-American.

History.—Apparently named and first listed by Crosman Brothers, about twenty-three years ago.

EXPRESS COS.

Listed by two seedsmen. Seeds tested: Henderson, 1902, 1903; Vaughan, 1903.

Description.—A typical cos variety, strictly self-closing, medium in size, early-intermediate in season compared to the butter or crisp sorts, but very small in size

and extremely early for this group; intermediate in time of shooting to seed. Plant very compact, decidedly upright in habit, its leaves when young growing straight and flat, but when older the innermost ones becoming decidedly spoon-shaped and making a well-defined, firm head of decidedly loaf-shaped form and roundish top, its leaves completely but not tightly overlapping one another, but with the outside ones so well separated from the head proper as to leave it somewhat bare or exposed. Leaves oval to slightly spatulate, outermost ones with smooth surface, and flat, innermost ones sparingly blistered and more or less cup-shaped, both, however, exceedingly regular in form, and thick, stiff, and coarse, but never in the least twisted nor crumpled, and always with coarse, hard veins, large, hard midribs, entire margins, and flat borders. Color very dark green, never spotted nor brownish in any part. Quality excellent; very hard in texture, but exceedingly sweet and crisp. Seeds whitish.

Comparison.—New and very little known or planted. Previous to the introduction of this variety the cos lettuces were not obtainable till late in the season, but with the advent of this new sort, which is decidedly earlier than any other cos variety, the season of this valuable class of lettuce has been greatly extended. Its quality is the very best or about the same as Paris White Cos, while it is also reliable and as self-closing as any other cos variety. Excellent either for the home or market gardener. It is similar to Paris White Cos, only half its size, much earlier, and darker green, or about the same shade of green as Green Cos.

History.—First introduced into this country in 1902 by Peter Henderson & Co. and Vaughan's Seed Store.

Illustrations.—A mature plant and leaf of the variety are shown on Plates XV and XXVI, respectively. The longitudinal section is similar to that given of Paris White Cos on Plate XIX.

GERMAN EARLY HEAD.

Listed by one seedsman. Seeds tested: Bridgeman, 1899-1903.

Description.—A fairly butter variety, strictly cabbage-heading, small-medium in size, early-intermediate in season, and shooting to seed quickly in hot weather. Plant extremely compact and forming a globular, well-defined, firm, well-blanchéd head, with leaves closely overlapping one another. Leaves broad in shape, fairly blistered and crumpled, little twisted, medium thick and stiff, obscurely crenate at margins, plainly undulate at borders. Color, light green, sometimes described as golden green; never spotted nor brownish in any part. Quality good; very sweet and slightly buttery in flavor, of a crisp, firm texture and distinct quality, quite different from most butter sorts, or somewhat approaching that of the crisp varieties. Seeds small, whitish.

Comparison.—Scarce and little planted. Reports as to its usefulness and value for this country have not come to our notice. It has always done well at Washington and appears to be a desirable variety, useful in the same way as Golden Queen, and suitable only as a market gardener's lettuce and for forcing or early planting outdoors. More like Golden Queen than any other sort, differing principally in that the shape of the head is decidedly globular, the color darker green, and margins of leaves more pronouncedly crenate.

Confusing name.—German Butter Head, a very different type of lettuce.

History.—Apparently never catalogued in this country, except by Alfred Bridgeman & Co., who have listed it for at least eight years.

Illustrations.—No good examples of the variety are offered in the accompanying illustrations, but the type is similar to that represented by White Forcing, on Plate VII.

GERMAN INCOMPARABLE.

Listed by one seedsman. Seeds tested: Dallwig, 1902, 1903.

Comparison.—Scarce and little grown. Usefulness and value apparently same as Emperor William, and except that its leaves are not spotted it is practically the same in appearance also.

History.—Apparently never catalogued in this country except by W. E. Dallwig, who first listed it in 1902.

Illustrations.—Same as for Emperor William.

GIANT GLACIER.

Listed by four seedsman. Seeds tested: Burpee, 1901, 1903.

Description.—A decidedly crisp variety, cabbage-heading, very late, large, slow to shoot to seed. Plant extremely loose and spreading, central part somewhat upright, especially when young. Stem large and long. Head globular to short oval in shape, well defined, well blanched, its leaves regularly overlapping one another but with loose spaces between them, and head, therefore, soft, although the leaves composing it are very thick and stiff. Leaves short, spatulate in shape, though sometimes as broad as long, slightly but coarsely blistered and crumpled, little twisted, very coarse in appearance, and with prominent heavy veins and a large protruding midrib; margins deeply serrate; borders frilled. Color very light green, never spotted, nor brownish in any part. Quality fair; coarse and hard in texture, but of a sweetness and firmness which are often much liked. Seeds large, whitish.

Comparison.—New and little known. As yet planted in this country only in an experimental way. Highly recommended by introducers, but at Washington it made a late, loose, soft head, and was too spreading in habit to be recommended for market gardening or as a very useful variety for any other purpose. Other sorts, like Hanson, are decidedly preferable and more reliable. Attractive to some amateurs as an immense showy lettuce and capable, perhaps, of growing to a greater size than any other cabbage-heading variety. Possibly more like Drumhead than any other lettuce, but the color is brighter green, habit lower growing, and heads more globular. Except for color, very similar to Tyrolese.

Synonyms.—Burpee's Giant Glacier, Maule's Silver Anniversary, Silver Anniversary.

History.—Introduced in 1900 by W. Atlee Burpee & Co., who state that the variety originally came from Italy.

Illustrations.—A leaf of the variety is shown on Plate XXV. The general type of the plant is perhaps better illustrated by Tyrolese, on Plate II, and Malta, on Plate XII, than by any of the accompanying illustrations.

GIANT WHITE COS.

Listed by five seedsman. Seeds tested: Burpee, 1899, 1901, 1902.

Comparison.—Scarce and rarely planted. Of the same general character as Paris White Cos, but less reliable and self-closing in habit and not so desirable for this country as that variety. The leaves are distinctly different from those of Paris White Cos, or more grayish green, flatter, and smoother, as well as conspicuously widest at top, prominently shouldered at upper part and jagged at margins.

History.—First introduced into this country by W. Atlee Burpee & Co., who state it to be of foreign origin. It was listed by them in 1882 as Carter's Giant White Cos.

Illustrations.—A leaf of the variety is shown on Plate XXVII. The general type of the plant is best illustrated by Express Cos, on Plate XV, and Paris White Cos, on Plate XIX.

GOLDEN CURLED.

Listed by eight seedsmen. Seeds tested: Beckert, 1899, 1900, 1903; Landreth, 1899, 1901, 1903; Scott, 1901.

Comparison.—One of the lesser grown varieties. Except for being very light solid green, the same as Chartier, already described, and but for difference in color identical also in usefulness and value.

Synonyms.—Beckert's Golden Curled, Alaska, White Chartier.

History.—Listed by above seedsmen for at least thirteen years.

Illustrations.—Same as for Chartier.

GOLDEN HEART.

Listed by two seedsmen. Seeds tested: Childs, 1899, 1900, 1902.

Description.—A decidedly butter variety, strictly bunching, very large, early-intermediate, quickly shooting to seed. Plant very spreading, and composed of a loose cluster of leaves very open at the center, extending flatly over the ground, too loose for blanching to any extent, and occupying a great amount of space. Leaves spatulate in shape, much blistered and crumpled, but flat and regular in form, never twisted, very loose, thin and limp, entire at margins, flat or partly blistered at borders. Color medium green, never spotted nor brownish in any part. Quality poor; of a somewhat bitter, rank, wild flavor, almost wholly lacking in sweetness. Seeds whitish.

Comparison.—Scarce and rarely planted. When first introduced this variety seems to have been highly recommended and was probably a useful sort; but the type appears to have degenerated or changed since then, for, as received here, it was a very spreading wild lettuce and one of the least to be recommended of all the kinds on trial. It is especially useless in hot weather and shoots to seed quicker than almost any other variety. It compares more favorably with other varieties in remaining fit for use in cool weather, but is of little value even under these conditions, because so spreading and requiring an immense amount of room to grow. Quite distinct from other sorts, but plainly more like Middletowner than any other, especially the wider-leaved plants. It is very similar to the wild plants which sometimes appear in Deacon, White Summer Cabbage, and other butter varieties.

Confusing names.—Golden Head, Golden Butter, Golden Curled, all different types from Golden Heart.

History.—Named and introduced by W. Atlee Burpee & Co., in 1884, as Burpee's Golden Heart, but not catalogued by them after 1890.

Illustrations.—A mature plant of the variety is shown on Plate II. The leaf is similar to that of Tennis Ball Black-Seeded, on Plate XXIII, except that it is more spatulate in form.

GOLDEN QUEEN.

Listed by twenty-seven seedsmen. Seeds tested: Bridgeman, 1900, 1901; Burpee 1900, 1901; Dreer, 1903; Henderson, 1899-1901, 1903; Michell, 1900; Thorburn, 1901, 1902; Weeber & Don, 1903.

Description.—A fairly butter variety, strictly cabbage-heading, small-medium in size, early, shooting to seed quickly in hot weather. Plant extremely compact, and forming a heart-shaped, somewhat pointed, fairly defined, firm, well blanched head, with leaves completely overlapping one another, except turned characteristically backward at their borders, somewhat like the petals of a rose, and the head thereby somewhat obscured. Leaves broad in shape, blistered, crumpled, twisted, thick, stiff, entire or obscurely crenate at margins, flat or slightly undulate at borders. Color a beautiful, rich, very light green, sometimes described as golden green,

never brownish nor spotted in any part. Quality excellent; very sweet and slightly buttery in flavor but of a crisp, firm texture and distinct quality quite different from other butter varieties or somewhat approaching that of the crisp lettuces. Seeds whitish, small or medium in size.

Comparison.—One of the popular varieties of the United States, though not one of the ten most largely grown sorts. Planted everywhere in the East and North. A superior forcing variety, especially for cold frames or hotbeds, and good for early planting outdoors, but not suitable for summer growing. A valuable market gardener's lettuce, but not recommended to amateurs for planting outdoors unless started early and well grown. For a rich, golden yellow color no variety is more beautiful or desirable than this one. More like German Early Head than any other lettuce. Very similar, also, to Lee's Market Forcing and White Forcing.

Synonyms.—Henderson's Golden Queen, Golden Queen, Stone Head Golden Yellow.

Confusing names.—Faust's Queen and Yellow Queen, both very different types from Golden Queen.

History.—First introduced by Peter Henderson & Co. about fourteen years ago.

Illustrations.—The type is perhaps best illustrated by White Forcing, on Plate VII, though about twice as large as that variety. The longitudinal section is similar in solidity to Matador, on Plate XX.

GOLDEN SPOTTED.

Listed by one seedsman. Seeds tested: Dallwig, 1900-1903.

Description.—A decidedly butter variety, strictly cabbage-heading, small-medium in size, late-intermediate in season, shooting to seed at an intermediate date. Plant compact and forming a globular, fairly defined, slightly firm, well-blanced head, with leaves closely overlapping one another. Leaves broad in shape, fairly blistered, crumpled and thick, little twisted, entire at margins, flat at borders. Color bright green, thickly spotted with bright brown. Spots very striking, evenly distributed over the plant, distinct and well separated from one another, not so fine or so massed together as to produce the effect of blotching or a single color; inside head leaves also spotted, and stem of plant and base of midrib plainly colored. Quality good; buttery, sweet, soft in texture. Seeds whitish.

Comparison.—Scarce and rarely planted. Too small, late, and unreliable a header to be generally useful, but very attractive because so beautifully spotted, no other variety comparing with it in this respect. The inner heart leaves, or those which are served for use, are not, however, very distinctly or thickly spotted; and for serving on the table the Trout variety will be found more attractive than this one. Only about one-half the plants are brightly spotted; the others approach a solid brown. The habit is the same as Tennis Ball Black-Seeded.

History.—W. E. Dallwig is at present the only American seedsman cataloguing this variety. It was listed by him first in 1888, but it seems that W. Atlee Burpee & Co. and others had listed it several years before.

Illustrations.—The general habit is illustrated by California Cream Butter, on Plate VIII, though the variety is far from being so solid or so perfect as represented in this figure.

GRAND RAPIDS.

Listed by one hundred and sixty-four seedsman. Seeds tested: Burpee, 1901; Ferry, 1900-1902; Landreth, 1899, 1901; Thorburn, 1899, 1901, 1903; Vaughan, 1901, 1903.

Description.—A decidedly crisp variety, strictly bunching, early-intermediate in season, quickly shooting to seed. Plant very spreading when young, but becoming fairly compact when mature, and forming a loose, rounded cluster of leaves, growing

close enough together for blanching to only a small extent, but when well grown never spread out or opened at the center. Leaves short spatulate in shape, excessively blistered and crumpled, slightly twisted, very thick and heavy, with coarse veins, large protruding midribs, serrate margins and with borders so excessively frilled and largely developed as to comprise the larger portion of the visible part of the plant. Color very light green, never spotted nor brownish in any part. Quality poor; crisp, but hard in texture; coarse and rank in flavor, or at least decidedly lacking in sweetness and delicacy. Seeds very blackish; extremely hard to germinate.

Comparison.—Probably one of the ten most largely grown varieties of the United States. The favorite for forcing in the West and other markets where hothouse lettuce is sold by weight and whose markets accept a bunching variety. It has largely replaced Black-Seeded Simpson for this purpose. At Washington it does not succeed well outdoors, and is not recommended farther south than this latitude. More easily grown in greenhouses than almost any other variety. Stands a great deal of neglect in watering and ventilation. A splendid shipper, and with many gardeners by far the best and most profitable sort for growing under glass. One of the coarser varieties, poor in quality when grown outdoors, but becoming tender and sweet when grown in greenhouses. More like Black-Seeded Simpson than any other, not only in appearance, but also in usefulness and value. Its fringed leaves and general habit are most like Boston Curled. The young plants are hardly distinguishable from Hanson and Black-Seeded Simpson. Grown in greenhouses the variety is very tall and upright in habit, not as described in the above notes which apply only to outdoor specimens.

Synonyms.—Grand Rapids Forcing, Grand Rapids Early Forcing, Mills' Earliest.

History.—Catalogued by D. M. Ferry & Co. in 1890, but known in Grand Rapids, Mich., ten or more years before that time. It is said to have originated with Mr. Eugene Davis, of Grand Rapids, and to be the result of more than fifteen years' selection of Black-Seeded Simpson.

Illustrations.—A mature plant and leaf are shown on Plates VI and XXV, respectively. The young plant is similar to Hanson, on Plate XXII. The general character of the longitudinal section is illustrated by Prize Head, on Plate XXI.

GREEN COS.

Listed by ten seedsmen. Seeds tested: Landreth, 1899, 1901, 1902; Rennie, 1903.

Comparison.—Scarce and rarely planted. Except that it is very dark green in color, its description, usefulness, and value are the same as given for Paris White Cos.

Illustrations.—Same as for Paris White Cos.

GREEN-FRINGED.

Listed by twenty-four seedsmen. Seeds tested: Burpee, 1899—1903; Templin, 1899; Vaughan, 1901.

Description.—A decidedly crisp variety, strictly bunching, small, early-intermediate in season, wilting at once upon being pulled, quickly shooting to seed. Plant growing close to the ground and composed of a loose, spreading, very regular, rosette-like cluster of leaves, very much opened or spread out at its center and growing flatly outward, never in the least upright nor clustered in growth, never blanched. Leaves broad, very regular in form, strictly smooth, rarely blistered, never crumpled nor twisted, exceedingly thick, stiff, and hard, veins many, large, coarse, and conspicuous, margins finely serrate, borders excessively frilled and so enormously developed as to embrace a large part of the visible portion of the plant. Color very dull green, never spotted nor brownish in any part. Quality very poor; tough in texture and of a rank, wild flavor. Seeds whitish.

Comparison.—Little known and rarely planted. A novel and very pretty fringed lettuce, but on account of its poor quality, small size, and its wilting immediately upon being pulled, of little use except for garnishing or ornament. Wholly unfit for marketing. One of the first to shoot to seed in hot weather but slow to do so in the autumn or in cool weather. Not suited for summer growing. More hardy to extreme cold than any other variety except perhaps Boston Curled. Very distinct and not comparable with other sorts. The thickest and hardest veined leaved lettuce in cultivation.

Synonyms.—California Curled.

History.—Catalogued by American seedsmen for at least fifteen years.

Illustrations.—A mature plant and leaf of the variety are shown on Plates III and XXIII, respectively.

HALF CENTURY.

Listed by one seedsman. Seeds tested: Childs, 1899—1903.

Description.—A decidedly butter variety, cabbage-heading, medium in size, early-intermediate in season, shooting to seed at an intermediate date. Young plant loose and spreading. Mature plant fairly compact when well developed, and forming a globular head, with leaves closely compacted uprightly and irregularly together, with little tendency to curve inward or lay flatly over one another, but nevertheless producing a firm, well blanched, but somewhat bursted-like, indistinctly defined head. Leaves short spatulate in shape, strictly smooth, never blistered nor crumpled, much twisted, exceedingly thick, fairly stiff, entire at margins, flat at borders. Color very dark green, plainly brownish at border, tinged in places during sunny weather but very little or not at all during cloudy weather, very sparingly spotted under the latter conditions and appearing as if wholly green unless very closely examined. Quality excellent; fairly buttery in flavor, exceedingly sweet, delicate, and tender, and with enormously thick leaves of great substance. Seeds blackish.

Comparison.—Scarce and rarely planted. At Washington decidedly the most tender and delicate flavored of all varieties tested. It is recommended to amateurs who want a lettuce of the very best quality. On account of its unattractive dark color, uneven shape, and tender leaves, which break upon the least handling, it becomes wholly unfit for market gardening; also an uncertain header and unreliable unless given good care. Very distinct and not easily compared with other varieties. Well-grown specimens sometimes resemble California Cream Butter.

Synonym.—Childs' Half Century.

History.—Named and first introduced in this country about 1890 by John Lewis Childs, who states that the seed was sent to him by Mrs. Belle Nance, Newmarket, Ala., in whose family it had been grown for more than fifty years.

Illustrations.—A mature plant is shown on Plate XVIII. The leaves are sometimes incurved, similar to those of Yellow Winter, on Plate XXIV.

HANSON.

Listed by one hundred and ninety-five seedsmen. Seeds tested: Burpee, 1901—1902; Dreer, 1900, 1901; Farquhar, 1901; Ferry, 1900, 1901; Henderson, 1901; Landreth, 1899; Maule, 1901; Thorburn, 1899, 1901—1903.

Description.—A decidedly crisp variety, strictly cabbage-heading, very large, very late, extremely slow to shoot to seed. Plant spreading, but not loose in habit and forming a globular, extremely hard, well-defined, well-blanced head, with leaves very flatly and tightly overlapping one another. Leaves very broad in shape, fairly blistered, crumpled and twisted, very thick, stiff and coarse in appearance, with heavy veins and a large protruding midrib; margins serrate; borders finely frilled. Color very light green, of a shining metallic surface rather than rich and glossy, never

spotted nor brownish in any part. Quality good; exceedingly crisp and firm in texture, and very sweet. Seeds large, whitish.

Comparison.—Probably one of the three most largely grown varieties of the United States. Succeeds well everywhere and is largely planted in every part of this country. The standard summer cabbage-heading variety for either the home or market gardener. Sure header and reliable. Wholly unsuited for wintering over or growing indoors. More like Blonde Block Head than any other sort. Iceberg, Giant Glacier, and New York are other closely related varieties.

Synonyms.—Maule's Hanson, Dreer's Hanson, Bruce's Nonpareil, Simon's Nonpareil, Nonpareil, Los Angeles Market, Montreal Market, Hamilton Market, Evans' Hamilton Market, Toronto Market, Toronto Gem, Mastodon, Excelsior, Gardener's Friend, Gardener's Favorite.

History.—Apparently introduced by Henry A. Dreer about thirty years ago.

Illustrations.—A mature plant, a longitudinal section, a young plant, and a leaf of the variety are shown on Plates I, XX, XXII, and XXVI, respectively.

HARBINGER.

Listed by one seedsman. Seeds tested: Livingston, 1903.

Comparison.—New, and so far used in this country for experimental planting only. The trials at Washington have not yet been sufficient to determine its usefulness and value nor to make it possible to say which one of our varieties it most closely resembles. It is evidently a distinct sort, similar to Tennis Ball Black-Seeded, Reichner, and Briggs' Forcing and Garden, but at Washington not nearly so reliable for outdoors as these varieties. Its seeds are whitish.

History.—First introduced into this country by George A. Weaver & Co. in 1900, but not catalogued by them in any other year.

HARDY GREEN HAMMERSMITH.

Listed by four seedsmen. Seeds tested: Thorburn, 1899-1900; Weeber & Don, 1901-1903.

Description.—A butter variety, imperfectly cabbage-heading, small-medium in size, late, shooting to seed at an intermediate season. Plant compact, generally forming no real head, but if well grown, making an indistinctly defined head of somewhat elongated shape and fairly well blanched and firm, its leaves imperfectly overlapping one another and their borders somewhat twisted backward. Leaves broad in shape, much blistered, crumpled, and twisted, very thick and stiff, entire at margins, flat or slightly blistered at borders. Color, medium green, of a grayish, very dull, unattractive shade; never spotted nor brownish in any part. Quality poor; slightly buttery, but coarse and almost wholly lacking in delicacy and sweetness. Seeds whitish.

Comparison.—Very little grown and of little value except for its hardiness to cold. Long known as one of the best sorts to winter over outdoors, for which purpose only it is recommended. One of the poorest of all varieties in quality, and although not quick to shoot to seed in hot weather it never grows well in summer, and has always been a failure at Washington, even when planted very early. Succeeds better in the autumn than in the spring, but rarely makes really good heads under any circumstances. Very distinct, but if a comparison is made it might be said to be more like Tennis Ball Black-Seeded than any other lettuce.

Synonyms.—Hammersmith, Hardy Green Winter.

History.—One of the oldest of all varieties. Known in this country for at least one hundred years.

HARTFORD BRONZED HEAD.

Listed by one seedsman. Seeds tested: Cadwell & Jones, 1899-1902.

Description.—A decidedly butter variety, strictly cabbage-heading, small-medium in size, intermediate in season, slow to shoot to seed. Plant very compact and forming a slightly elongated, somewhat pointed, indefinitely defined, very firm, well-blanchered head, with leaves very closely overlapping one another, except their uppermost borders, which are characteristically turned and twisted backward. This habit of growth, as well as the close way in which the outer leaves are drawn toward the plant, almost completely obscures the head; no distinct separation between head proper and outer leaves of plant. Leaves very broad, fairly blistered, crumpled and twisted, very thick and stiff, entire at margins, flat at borders. Color a dark, almost solid brown during summer weather, but bright green in less-exposed parts during spring or cloudy weather; stem of plant and base of midribs plainly colored; inner head leaves sparingly spotted and often rusty colored at their base. Quality excellent; buttery, exceedingly tender and sweet. Seeds blackish.

Comparison.—One of the lesser-grown varieties. More widely known under the name of Crisp as Ice. Too dark brown for a good market gardener's sort, but one of the best for home use, as it is perhaps not surpassed by any except Half Century in delicate flavor and tender quality. Good for summer, sure header, and reliable, but very late in season for so small a variety. More like Shotwell's Brown Head than any other, and so much like it as often considered to be the same; in fact, that type has frequently been sold for Crisp as Ice. After this variety it most resembles Trout.

Synonyms.—Bronzed Head, Crisp as Ice.

Confusing Names.—Batavian Brown Head, Shotwell's Brown Head, Brown Curled, Bronzed Red, Bronzed Curled, all different types from Hartford Bronzed Head.

History.—Named and introduced in 1888 by Cadwell & Jones, who state that the variety originated with the market gardeners of Hartford, Conn.

Illustrations.—A longitudinal section is shown on Plate XIX. The crumpled habit of the leaf is similar to that of Tennis Ball Black-Seeded, on Plate XXIII.

HERO.

Listed by one seedsman. Seeds tested: Vick, 1899-1901, 1903.

Description.—A butter variety, naturally cabbage-heading when at its best, but bunching under ordinary conditions, large-medium in size, very late in season, slow to shoot to seed. Plant loose, very spreading, and forming when well grown a globular, well-defined, very soft, fairly blanched head, with leaves very flatly but loosely overlapping one another, and with open spaces between them, though under ordinary conditions forming a very open cluster, with leaves spreading flatly over the ground and never growing close enough for blanching to any extent. Leaves spatulate, smooth, very little blistered, crumpled and twisted, somewhat thin, obscurely crenate to entire at margins, broadly undulate at borders. Color a peculiar light brown, no more colored at border than in other parts. Very different in color from any other variety. Quality poor; hard in texture, decidedly lacking in sweetness and flavor. Seeds blackish.

Comparison.—Scarce and rarely planted. Unreliable and too loose in habit and requiring too much skill and care for growing well to be recommended as a useful variety. Wholly unfit for market gardening, but attractive to some amateur gardeners because of its peculiarly brilliant color and very showy heads when well grown. Very distinct and hardly comparable with any other sort, except, on account of its color, sometimes associated with Eureka.

Synonym.—Vick's Hero.

History.—Named and introduced in 1898 by James Vick's Sons, who state that the seed originally came from Germany.

HOTHOUSE.

Listed by thirteen seedsmen. Seeds tested: Rennie & Pino, 1903.

Comparison.—Well known and extensively used in the East to grow under glass, for which purpose it is probably planted in New England more than any other variety, though it is not one of the more largely grown lettuces of the United States. A favorite with large commercial growers and superseding the smaller Tennis Ball White-Seeded variety, which for years has been the only sort used in New England for forcing. It is strictly a market gardener's forcing variety and is wholly unsuited for amateurs or for outdoor planting. When grown under glass Hothouse is decidedly larger, a little later to mature, and duller green in color than Tennis Ball White-Seeded, but outdoors the description given of the latter variety applies also to this one. The only certain distinction between the two when grown outdoors is in the color of the plants.

Synonyms.—Elliott's Hothouse, Rawson's Hothouse, Johnson & Stokes's Hothouse, Rennie & Pino's Hothouse, Hotbed, Glasshouse, Thorburn's Glasshouse, Boston Glasshouse, Noll's Boston Glasshouse, Boston Forcing Tennis Ball White-Seeded, Boston Forcing, Hittinger's Belmont, Hittinger's Forcing, Superb.

History.—Introduced about thirteen years ago. W. W. Rawson & Co. listed it in 1891 as Rawson's Hothouse.

Illustrations.—The general type of the plant is shown by California Cream Butter, on Plate VIII, the solidity of the heads by Mette's Forcing, on Plate XVIII, and the leaf, except for being less blistered, by Tennis Ball Black-Seeded, on Plate XXIII.

HUBBARD'S MARKET.

Listed by twenty-six seedsmen. Seeds tested: Ferry, 1900, 1901; Harvey, 1899; Landreth, 1899; Thorburn, 1899-1901, 1903.

Description.—A decidedly butter variety, strictly cabbage-heading, large-medium in size, early-intermediate in season, and shooting to seed at an intermediate date. Plant compact and forming a globular, very firm, fairly defined, well-blanced head, with leaves very closely overlapping one another, but more inclined to meet at their margins than to fold over past the center of the head. Leaves broad in shape, fairly blistered, crumpled, twisted, thick and stiff, entire at margins, flat at borders. Color medium green, never spotted nor brownish in any part. Quality excellent; sweet and very buttery in flavor, soft in texture. Seeds whitish.

Comparison.—One of the popular varieties of the United States, though not one of the ten most largely grown sorts. Well known in the eastern markets, but largely grown and succeeding well in all parts of the country, including the extreme South. An all-round variety, good for forcing, wintering over outdoors, and early spring, late fall, or summer growing, for all of which it is largely used. One of the best either for the private or market gardener. More like White Summer Cabbage than any other, in fact, as sometimes sold, it seems identical with that sort. Very similar to Tennis Ball Black-Seeded, differing from it principally in being a little darker green, smoother, and thicker leaved, and with head leaves not reaching over the center so completely.

History.—Named and introduced about 1875 by Chase Brothers, nurserymen, who were handling seeds at that time. It is said to have originated with a Mr. Hubbard, of Chautauqua County, N. Y.

Synonyms.—Hubbard's Forcing, Early Cabbage, Early White Cabbage, Early White Butter, Wood's Cabbage, Simon's Early White Cabbage, Early Market, Eichling's Early Market, French Market, Steckler's French Market, Dickmann's St. Louis Market, Memphis, Schindler's Early Market, Early Challenge, Gold Nugget.

Illustrations.—A mature plant of the variety is shown on Plate X. The solidity of the heads is shown by Matador on Plate XX, and the leaves are between those of Tennis Ball Black-Seeded and Deacon, both on Plate XXIII.

ICEBERG.

Listed by seventy-four seedsmen. Seeds tested: Beckert, 1900; Burpee, 1899-1903; Darch & Hunter, 1900; Livingston, 1901; Thorburn, 1903.

Description.—A decidedly crisp variety, strictly cabbage-heading, large, late, slow to shoot to seed. Plant spreading, but not loose in habit, and forming a globular, well-defined, sometimes very exposed or bare, extremely hard, well-blanced head, with leaves very completely and tightly overlapping one another. Leaves unusually broad in shape, fairly blistered, crumpled, and twisted, very thick, stiff, coarse in appearance, with heavy veins and a large protruding midrib; margins serrate; borders finely frilled. Color light green, excepting faint brown along extreme border and occasionally barely tinged in other parts, never spotted, and inner head leaves and stem of plant never colored. Quality good; exceedingly crisp and firm in texture, very sweet but not buttery in flavor. Seeds large, whitish.

Comparison.—Well known and largely planted in all parts of the United States, though not one of the ten most largely grown sorts. A standard summer cabbage-heading lettuce of the very best crisp quality, sure header, and very reliable. Suitable either for the market or private gardener, especially the latter. This type of lettuce is generally considered unsuited for forcing, but some have tried it in a small way in greenhouses and reported it a success. Very similar to, and possibly identical with, Marblehead Mammoth. Except that it is smaller and different in color, very much like Hanson and New York.

Synonyms.—Burpee's Iceberg, Curled India, Large India, Weaver's Market Gardener's.

History.—Named and introduced into this country in 1894 by W. Atlee Burpee & Co., who state that the variety is of foreign origin.

Illustrations.—Same as for Hanson.

ITALIAN ICE.

Listed by one seedsman. Seeds tested: Koerner, 1900, 1901, 1903.

Description.—The seeds of this variety as sold in the United States for the past five years have always been very poor and weak. Its germination at Washington has been uniformly unsatisfactory and no good tests of it have been obtained. For this reason it is impossible at this time to furnish a description or to state its identity. It is plainly distinct from any other variety, and the description of Hanson probably will apply very nearly to it except only that the margins of Italian Ice are obscurely crenate and its borders plainly undulate. Its seeds are whitish.

History.—Listed by W. Atlee Burpee & Co. in 1897, but never afterwards.

Illustrations.—A mature plant of the variety is shown on Plate XII.

LACINIATED BEAUREGARD.

Listed by one seedsman. Seeds tested: Salzer, 1901-1903.

Description.—The correct type of this variety as known in Europe is a very loose-bunching, deeply cut-leaved lettuce, but the sample received for trial in 1900 was Deacon, and those of the other years were Tennis Ball Black-Seeded, both of which are as different from the type as it is possible for a lettuce to be.

Comparison.—Probably suitable only for garnishing or ornament, and useful in the same way as Green-Fringed and Boston Curled.

History.—Listed by W. Atlee Burpee & Co. in 1884 and James J. H. Gregory in 1886, and figured in the former seedsman's catalogue of the year mentioned.

LANCASTER.

Listed by one seedsman. Seeds tested: Burpee, 1899-1903.

Description.—A medium butter variety, strictly bunching, medium in size, early intermediate in season, extremely slow to shoot to seed. Plant growing very close to the ground and consisting of a very well-rounded, symmetrical, remarkably compact, somewhat firm, well-blanced cluster of leaves; never opened nor spread out at the center, and only slightly more dense in the middle than in other parts. Leaves very much twisted together in the head, and general form broad, but also divided, or at least deeply lobed, the separations terminating at the base and central part consisting of one large lobe comprising the larger part of leaf, while the lobes themselves are so excessively developed as to make the leaf appear like several growing together. Leaves entirely smooth, thick, stiff, entire at margins, flat at borders, and generally with distinct glands near the base of the outer part of the midribs, one on each side. Color very light green, never spotted nor brownish in any part. Quality fair to poor; hard in texture and somewhat lacking in flavor, sweetness, and delicacy. Seeds whitish.

Comparison.—Scarce and rarely planted. The real usefulness and value of this novel variety seem to be little known. Under canvas, it did better at Washington than any other sort, but outdoors the Baltimore Oak-Leaved has always grown larger and proved to be decidedly the best of the lobed-leaved varieties. Attractive because of its beautiful light-green color and fine form. More like Baltimore Oak-Leaved than any other variety. Next to this most like Oak-Leaved. Outside of these two sorts, wholly different from other varieties.

History.—Named and first introduced in 1898, by W. Atlee Burpee & Co., who state that the seed was received from Mrs. Mary E. Ringaman, Stonycreek Mills, Pa., in 1894.

Illustrations.—The variety is illustrated on Plates XV, XIX, and XXIV.

LARGE YELLOW MARKET.

Listed by two seedsman. Seeds tested: Buist, 1900-1902; Godden, 1902.

Description.—A decidedly butter variety, strictly cabbage-heading, very large, late, slow to shoot to seed. Plant very spreading, loose in habit, and forming a globular, well-defined, soft, or slightly firm, well-blanced head, with leaves flatly but loosely overlapping one another. Leaves very broad in shape, much blistered and crumpled, little twisted, somewhat thin, almost limp, entire at margins, flat or partly blistered at borders. Color light green, never spotted nor brownish in any part. Quality excellent; mild, delicate, sweet, buttery flavor, soft texture. Seeds whitish.

Comparison.—Scarce and little planted. Probably the best of the very large, light green cabbage-heading varieties, and especially attractive to amateurs who desire an immense showy lettuce of this kind. Good for either private or market gardeners. Wholly unsuited for forcing. Very similar to and possibly identical with Paris Sugar and Burpee's Butter Head. Also resembles Thick Head Yellow and Mammoth Black-Seeded Butter.

History.—A foreign sort first listed by American seedsman about fourteen years ago and more largely catalogued at that time than at present.

Illustrations.—The variety is not well shown in any of the following illustrations. That of California Cream Butter, on Plate VIII, perhaps represents the type as well as any, though the variety is much looser in habit, or approaches that of Red Besson, on Plate XIII. The solidity of the heads resembles Matador, on Plate XX. The leaf is similar to Tennis Ball Black-Seeded, on Plate XXIII.

LEE'S MARKET FORCING.

Listed by one seedsman. Seeds tested: Lee, 1903.

Description.—A decidedly butter variety, strictly cabbage-heading, small, early, and shooting to seed quickly in hot weather. Plant compact and forming a slightly heart-shaped or globular, well-defined, firm, well-blanced head, with leaves closely overlapping one another except their borders turned slightly backward. Leaves broad in shape, blistered, crumpled, thick, and stiff, entire or rarely obscurely crenate at margins, flat or slightly undulate at borders. Color medium green, never spotted nor brownish in any part. Quality good; sweet, buttery in flavor, soft in texture. Seeds whitish.

Comparison.—Scarce and little known or planted, but highly recommended for trial to market gardeners. Its usefulness and value seem to be the same as Golden Queen and it is more like that variety in appearance than any other. Also resembles Emperor Forcing and German Early Head.

History.—Named and first listed by Lee Pioneer Seed Company.

Illustrations.—The variety is not well shown by any of the following illustrations. Hubbard's Market, on Plate X, and White Forcing, on Plate VII, represent the type as well as any.

LIMAGNE COS.

Listed by one seedsman. Seeds tested: Maule, 1901-1903.

Description.—New and little known or planted. Same general character and usefulness as Paris White Cos. Further trials are necessary before the differences between the two can be fully determined. The variety is said to be a great favorite in the Paris markets.

History.—Introduced into this country by William Henry Maule in 1901.

Illustrations.—Same as for Paris White Cos.

MALTA.

Listed by twelve seedsman. Seeds tested: Comstock, Ferre & Co., 1901; Simmers, 1900.

Description.—A decidedly crisp variety, cabbage-heading, very late, very large, shooting to seed at an intermediate date. Plant loose but not spreading in habit, very upright and tree-like in growth when young. Head decidedly oval in shape, fairly defined, well blanced, its leaves regularly overlapping one another, but with loose spaces between them, and head therefore soft, though the leaves composing it are very stiff and thick. Outer leaves of plant many and completely surrounding and much obscuring the head except at the top, which portion is more or less exposed. Leaves short spatulate in shape, slightly but very coarsely blistered and crumpled, fairly twisted, very coarse in appearance, with prominent, heavy veins, and a large, protruding midrib; margins serrate to obscurely crenate; borders coarsely frilled to coarsely undulate. Color very light green, never spotted nor brownish in any part. Quality poor; decidedly coarse and hard in texture, but of a firmness, and slightly sweet flavor, which is much liked by some. Seeds whitish.

Comparison.—Well known but little planted. Value very limited, its chief recommendation being immense size. Giant Glacier, Hanson, or New York are, however, generally preferable for a lettuce of this kind, and both private and market gardeners are advised to test this variety in their gardens before planting it very largely. The habit is decidedly too loose and the head too soft to be generally valuable. Habit of growth very similar to Tyrolese. Color most like Hanson.

Synonyms.—Drum Head, Ice Drum Head.

History.—A foreign sort. Known in this country for at least forty-four years.

Illustration.—A mature plant of the variety is shown on Plate XII.

MAMMOTH BLACK-SEEDED BUTTER.

Listed by thirty-three seedsmen. Seeds tested: Burpee, 1900-1903; Ferry, 1900, 1901; Henderson, 1901.

Description.—A decidedly butter variety, strictly cabbage-heading, large, intermediate in season, late-intermediate in time of shooting to seed. Plant spreading and forming a slightly oval, firm, or somewhat soft, well-defined, well-blanchled head, with leaves very closely overlapping one another. Stem of plant very long, and head therefore held high above ground, thereby making the oval shape and bare or exposed appearance of the latter very pronounced. Leaves broad, much blistered and crumpled, little twisted, thin, almost loose and limp; entire at margins, flat or partly blistered at borders. Color light green, never spotted nor brownish in any part. Quality excellent; delicate, sweet, buttery in flavor, soft in texture, but leaf thin and lacking substance. Seeds blackish.

Comparison.—One of the ten most largely grown varieties of the United States. Planted largely in the East and North, especially by New York City market gardeners, who recommend it as one of the best for fall sowing. Sure header and reliable. Suitable for private as well as market gardeners. Stands summer well, but not suited for forcing. More like Tennis Ball Black-Seeded than any other variety.

Synonyms.—All Right Spring and Autumn, All Right Spring and Summer, Michell's All Right Spring and Autumn, Michell's All Right Spring and Summer, California All Head, Mammoth Large Yellow Butter, Vaughan's Mammoth Cabbage Head.

Confusing names.—Black-Seeded Butter, a different type from Mammoth Black-Seeded Butter.

History.—Apparently named and introduced by J. M. Thorburn & Co., about fourteen years ago.

Illustrations.—The general character of the variety is shown by California Cream Butter, on Plate VIII, though the type is much looser than in that figure, or somewhat approaching that of Red Besson, on Plate XIII. The solidity of the heads is illustrated by Matador, on Plate XX, and the character of the leaf by Tennis Ball Black-Seeded, on Plate XXIII.

MARBLEHEAD MAMMOTH.

Listed by nine seedsmen. Seeds tested: Livingston, 1900, 1901; Schlegel & Fottler, 1901; Gregory, 1899, 1900; Hastings, 1901.

Comparison.—One of the lesser grown varieties of the United States. Usefulness and value same as Iceberg and possibly identical with it. Further trials are necessary, however, before this can be definitely determined. The differences, if there be any, are very slight and unimportant.

Synonyms.—Shumway's Mammoth, Tender Leaf.

History.—Named and first introduced in 1886 by James J. H. Gregory & Son, who state that the variety originally came from Illinois.

Illustrations.—Same as for Hanson.

MATADOR.

Listed by one seedsmen. Seeds tested: Henderson, 1903.

Description.—A decidedly butter variety, strictly cabbage-heading, medium in size, early, shooting to seed at an intermediate date. Plant compact and forming a globular, very well-defined, firm, well-blanchled head, with leaves very closely overlapping one another. Leaves cup-shaped when young, very broad when full size, fairly blistered and crumpled, little twisted, somewhat thin; entire at margins, flat or partly blistered at borders. Color a beautiful light-brown and bright-green distributed in large blotches over the plant, apparently not spotted, but in sunny weather a few

faint spots are evident on close examination; stem of plant, base of midribs, and inner heart leaves wholly green. Quality good; sweet, very buttery in flavor, soft in texture. Seeds whitish.

Comparison.—Very little known or planted. A most excellent variety and highly recommended to both market and private gardeners as one of the best of the sure heading, reliable, early, cabbage-heading butter sorts for fall or early spring planting. No reports of its use for forcing have yet come to our notice, but judging from our trials it is apparently an admirable variety for that purpose. In some places it may not answer as a market gardeners' variety because of its brown color. Not suited for summer growing. Usefulness and value much the same as Victoria Red-Edged Cabbage and perhaps as much like that variety as any other. In respect to color alone it is most like Brown Head.

Synonym.—First Crop.

History.—Named and first introduced into this country by Peter Henderson & Co., in 1903.

Illustrations.—A longitudinal section of the variety is shown on Plate XX. The habit of the plant is illustrated by California Cream Butter, on Plate VIII, and the character of the leaves by Tennis Ball Black-Seeded, on Plate XXIII.

MAXIMUM.

Listed by eleven seedsmen. Seeds tested: Thorburn, 1899-1901; Vaughan, 1900-1901.

Description.—A decidedly butter variety, strictly cabbage-heading, very large, late, slow to shoot to seed. Young plant spreading, very regular in habit, its leaves straight and extending flatly over the ground. Mature plant very loose, spreading, and occupying much space. Head globular or oval under some conditions, soft to somewhat firm, very well blanched, its leaves very flatly but loosely overlapping one another, while the outer leaves of plant are well separated from the head proper, thereby leaving the latter quite bare or exposed. Leaves broad in shape, fairly smooth, slightly blistered, crumpled and twisted, and on account of their great size and weight, outer leaves of plant often falling loosely away from the head proper and appearing loose and limp, though really thick and fairly stiff; margins entire and fringed with hair-like bristles; borders flat. Color dull dark green, freely spotted with dark brown, tinged faintly in places with medium brown, especially along the border, but never colored in distinct or sharp blotches, and inner head leaves and stem of plant wholly green. Quality good; fairly sweet, very buttery in flavor, and with thick, soft leaves of much substance. Seeds blackish, slightly more brownish than most blackish-seeded sorts and sometimes described as brown.

Comparison.—New and as yet not extensively planted, but rapidly coming into favor as a reliable summer variety and excellent also for spring or autumn. Not suited for forcing. Claimed by introducer to make a larger and more showy head than any other butter variety. Its dull dark color is one of its objectionable features in some markets. More like Sutton's Giant than any other variety. Next to this most like California Cream Butter. In color and first early growth very much like Passion.

Synonyms.—Thorburn's Maximum, Elliott's Leviathan, Leviathan, Hastings's Superba, Superba, Matchless, Michell's Matchless, Midsummer, Tait's Midsummer, Immensity, Henderson's Immensity, Summerlead, Johnson & Stokes's Summerlead.

History.—Named and first introduced into this country in 1898 by J. M. Thorburn & Co., who state that the variety was obtained in France.

Illustrations.—Two mature plants of the variety are shown on Plate XI. The solidity of the heads is illustrated by Matador on Plate XX, the habit of the young plants by Passion on Plate XXII, and the character of the leaves by Tennis Ball Black-Seeded on Plate XXIII.

METTE'S FORCING.

Listed by one seedsman. Seeds tested: Dallwig, 1899-1903.

Description.—A decidedly butter variety, strictly cabbage-heading, small, very early, shooting to seed at once in hot weather. Plant very compact and forming a globular, very firm, well-defined, well-blanced head, with leaves closely overlapping one another except their borders very characteristically twisted and turned backward. Leaves broad, always very regular in shape, peculiarly spoon-shaped when young, fairly blistered, crumpled, thick and stiff, entire at margins, flat at borders. Color medium green, never spotted nor brownish in any part. Quality good; fairly sweet and buttery in flavor, soft in texture. Seeds whitish, small to medium in size.

Comparison.—This little known variety is highly recommended to market gardeners as an excellent forcing sort of the butter class. It may not suit those who prefer a large-sized variety, but for a lettuce of its size no variety grew better at Washington than this one. For compactness, solidity, and fine form no variety is more desirable. Not recommended to private gardeners and unsuited for summer growing. More like Emperor Forcing than any other variety. Its habit is similar to Hubbard's Market. Best distinguished from these two sorts by its peculiar twisted borders.

Synonym.—New Forcing.

History.—Apparently never catalogued in this country except by W. E. Dallwig, who has listed it for at least eleven years. The name was changed in 1902 to New Forcing, which is very unfortunate, as under such a designation it is likely to be confused with other names.

Illustrations.—The variety is illustrated on Plates XVIII and XIX.

MIDDLEOWNER.

Listed by one seedsman. Seeds tested: Weber, 1903.

Description.—A butter variety, strictly bunching, medium in size, early intermediate in season, quickly shooting to seed in hot weather. Plant very spreading and consisting of a low-growing, flattened cluster of leaves, very open and spread out at the center, never in the least heading in habit and too open in growth for blanching to any extent. Leaves spatulate in shape, fairly blistered and crumpled, never twisted, somewhat thin, serrate at margins, frilled at borders. Color very light green, never spotted nor brownish in any part. Quality decidedly poor; hard and coarse in texture, rank and wild in flavor. Seeds whitish.

Comparison.—This scarce and little planted variety is recommended by the introducer as standing more cloudy and cold weather without rot or injury than any other lettuce and succeeding during winter in hotbeds when other sorts could not be raised or offered for sale. No other reports of its value in this or other respects have come to our notice, but at Washington last autumn it was no more hardy to cold than our common butter varieties, while for outdoor use during spring, summer, and fall it was more wild in appearance, spreading in growth, required more room to grow and perhaps proved to be the least to be recommended of all varieties tested. Very distinct and not well compared with other varieties. It resembles the wild plants sometimes found in Hanson, Black-Seeded Simpson, and Early Curled Silesia, and is similar in habit to Golden Heart.

Synonym.—Norwood.

History.—Named and first introduced by C. H. W. Weber, who states it originated with market gardeners of Middletown, Ohio.

MIGNONETTE.

Listed by twenty-four seedsmen. Seeds tested: Burpee, 1899-1901; Henderson, 1901-1903; Thorburn, 1901-1903.

Description.—A fairly crisp variety, strictly cabbage-heading, small-medium in size, early-intermediate in season, slow to shoot to seed for so early a sort. Plant remarkably compact and forming a globular, extremely hard, very well-blanchled head, with leaves tightly drawn, but their borders so twisted as to produce a torn effect or bursted-like head; no distinct separation between head proper and outer part of plant, the whole being nearly all head. Leaves broad in shape, excessively blistered, crumpled, and twisted, very thick and stiff, finely serrate at margins, frilled at borders. Color dull, very dark brown with dull dark green in less exposed parts, darkest brown at borders of leaves, never distinctly spotted, inner head leaves and stem of plant wholly green. Quality excellent; exceedingly tender, crisp, and sweet. Seeds very blackish, small to medium in size.

Comparison.—One of the lesser grown varieties. An excellent sort for family use, but too small and dark brown in color for a market gardener's lettuce. Probably the most delicate in flavor and tender in texture of the crisp varieties. Very reliable for spring and fall sowing, and one of the most compact and hardest heading of all lettuces. Excepting for color probably a good forcing variety, but not recommended for summer. Similar to Density, differing in size, earliness, and color, but not closely resembling any other variety. The darkest, dullest green of all lettuces. More like Hartford Bronzed Head in color than any other.

Synonym.—Delicate.

History.—Named and first introduced by Peter Henderson & Co. in 1895.

Illustrations.—A side view of the variety is shown on Plate VII. The upper view is very similar to Density, on the same plate. The solidity of the heads is illustrated by Tom Thumb on Plate XIX.

MILLY.

Listed by two seedsmen. Seeds tested: Vaughan, 1901-1903.

Comparison.—Scarce and little grown. Very similar to Victoria Red-Edged Cabbage, and possibly identical with it. Further trials are necessary before the differences, if any, can be fully determined.

History.—Apparently introduced in 1901 by J. C. Vaughan, who states that the variety was obtained from Vilmorin-Andrieux & Co., of France.

Illustrations.—The type of the plant and solidity of the heads are illustrated by California Cream Butter and Matador, respectively, the former shown on Plate VIII and the latter on Plate XX.

MORSE.

Listed by twenty seedsmen. Seeds tested: Burpee, 1899-1903; Johnson & Stokes, 1901; Maule, 1900; Vaughan, 1900-1901.

Comparison.—One of the lesser grown varieties. Sometimes called a white-seeded Black-Seeded Simpson, and excepting in color of seed the description of the varieties is the same. Morse is, however, more blistered in the leaves, finer frilled at the borders, more compact in habit, more inclined toward forming a cabbage-like head, and is a different shade of green. The two varieties sometimes can not be distinguished unless placed side by side. Their usefulness and value are almost the same, but for some soils and conditions Morse is the better variety, and is therefore recommended for trial to both amateurs and market gardeners.

Synonym.—Hammond's Earliest Forcing.

History.—Originated by Mr. Lester Morse, of Santa Clara, Cal., from some white seeds selected in 1892 out of Black-Seeded Simpson. It was named and introduced by W. Atlee Burpee & Co. in 1895.

Illustrations.—Same as for Black-Seeded Simpson.

NANSEN.

Listed by five seedsmen. Seeds tested: Burpee, 1901-1903; Germain, 1901.

Description.—A decidedly butter variety, strictly cabbage-heading, medium in size, early and shooting to seed at an early intermediate date. Young plant with leaves so very upright and irregularly twisted as often to appear like several plants growing together. Mature plant compact and forming a globular head, with leaves closely compacted together uprightly and irregularly, or with little tendency to curve inward and fold flatly over one another, but nevertheless producing a firm, well-blanchered, though somewhat indefinitely defined head. Leaves broad, at first wholly smooth, but at maturity slightly blistered and crumpled, also much twisted, fairly thick and stiff, entire at margins, flat at borders. Color, light green; never spotted nor brownish in any part. Quality excellent; mild, delicate, sweet, buttery in flavor, soft in texture. Seeds whitish.

Comparison.—New and little known or planted. An excellent, early butter cabbage-heading variety of the best quality. Suitable for forcing, early spring or fall growing, and adapted for either the private or market gardener. Not so well suited for summer growing as Deacon and Hubbard's Market. Said to stand a great deal of frost and cold. Very similar to Hubbard's Market and Reichner.

Synonyms.—Forty Day, North Pole.

History.—Introduced into this country by Germain Seed Company in 1898. It is said to be of German origin.

Illustrations.—A young plant of the variety is shown on Plate XXII. The mature plant is perhaps best illustrated by Hubbard's Market, on Plate —, though the leaves do not overlap one another so completely as in that variety.

NEW YORK.

Listed by eighty-one seedsmen. Seeds tested: Buckbee, 1899; Farquhar, 1901; Henderson, 1900, 1901; Landreth, 1901; Thorburn, 1899, 1903.

Description.—A decidedly crisp variety, strictly cabbage-heading, very large, late, extremely slow to shoot to seed. Young plant spreading, though central portion upright and immature head decidedly long. Mature plant also spreading and forming a globular or slightly oval, very hard, well-blanchered, well-defined head, its leaves very flatly and tightly overlapping one another. Leaves broad in shape, fairly blistered, crumpled and twisted, thick, stiff, and coarse in appearance, with heavy veins and a large protruding midrib; margins finely serrate; borders frilled. Color dark green, never spotted nor brownish in any part. Quality good, exceedingly crisp and firm in texture, very sweet but never buttery in flavor. Seeds large, whitish.

Comparison.—One of the popular varieties of the United States, succeeding everywhere and extensively planted in all parts of the country. Being an excellent shipper it is a favorite variety with market gardeners about New York City, and especially in California. Its dull dark green color, however, does not commend it to some markets. A reliable, sure-heading, standard summer variety for either the private or market gardener, and of the best quality. Wholly unfit for forcing or wintering over. Very similar in habit to Blonde Block Head. Excepting in color much like Hanson and Iceberg, and distinguished also from these two sorts by its upright habit when young.

Synonyms.—New York Market, Henderson's New York, Bonanza, Schwill's Bonanza, Queen, Faust's Queen, Farmer Seed Company's New Ice, Sterling, Hastings's Drum Head, Wonderful, Wheeler's Wonderful, Webb's Wonderful, Neapolitan.

Confusing names.—New York Black-Seeded Butter, New York Cold Frame White Cabbage, New York Market Gardener's Private Stock, all types different from New York.

History.—Named and introduced by Peter Henderson & Co. in 1896.

Illustrations.—Same as for Hanson.

OAK-LEAVED.

Listed by twenty-one seedsmen. Seeds tested: Maule, 1899, 1900.

Comparison.—Scarce and rarely planted. Now largely replaced by the improved variety known as Baltimore Oak-Leaved, which is more compact and dense and with leaves more developed. The true type of Oak-Leaved is difficult to obtain, as the improved variety seems to be used almost exclusively in filling orders for Oak-Leaved.

History.—First listed by American seedsmen about twenty years ago and described at that time as a new lettuce.

Illustrations.—A mature plant and leaf of the variety are shown on Plates XVI and XXIV, respectively. A longitudinal section is similar to that of Lancaster on Plate XIX only more loose and open.

ONONDAGA.

Listed by five seedsmen. Seeds tested: Burpee, 1899-1903; Ebeling, 1901.

Description.—A decidedly crisp variety, strictly bunching, intermediate in size and season, slow to shoot to seed. Plant low growing, remarkably compact, and consisting of a loose, beautifully well-rounded, very symmetrical cluster of leaves, never opened nor spread out at the middle, and never in the least cabbagelike nor solid at the center, though nevertheless the inner part is well blanched. Leaves broad, short, well rounded, very regular in form, little twisted, much blistered and crumpled, somewhat thin but not limp, very finely serrate at margins, excessively frilled and much developed at borders. Color bright brown, varying to bright green in less exposed parts and center of plant, deepest colored at borders; inner heart leaves, base of midribs, and stem of plant wholly green and no part of plant distinctly spotted. Quality good; sweet in flavor, tender, and crisp in texture. Seeds whitish.

Comparison.—Popular with some market gardeners in Onondaga County, N. Y., but apparently rarely planted in other places. Claimed by introducers to be one of the best for forcing and shipping; also easily grown in greenhouses and standing a great deal of neglect in watering and ventilation. The brown color is said to give place to light green when the lettuce is grown under glass during winter. More like Prize Head than any other variety. Being brighter colored, more rounded in form, and earlier, it is more attractive outdoors than that variety, but not so useful, because smaller and less reliable.

Synonym.—Syracuse Greenhouse.

History.—First introduced into this country by F. H. Ebeling in 1888. Said to have originated in Onondaga County, N. Y.

Illustrations.—A mature plant of the variety is shown on Plate VI. A longitudinal section is similar to that of Prize Head on Plate XXI, a young plant to that of Hanson on Plate XXII, and a leaf between that of Grand Rapids on Plate XXV, and Hanson on Plate XXVI.

PARIS SUGAR.

Listed by one seedsman. Seeds tested: Dallwig, 1900-1903.

Description.—Scarce and rarely planted. Same general character and usefulness as Burpee's Butterhead and Large Yellow Market. The differences between the three are very slight. At Washington the leaves of Large Yellow Market seemed more blistered than those of the other two, but further trials are necessary before the differences between the three can be definitely stated.

History.—W. E. Dallwig, who listed this variety in 1893, claims to have first introduced it into this country. It is described as of German origin.

Illustrations.—Same as for Large Yellow Market.

PARIS WHITE COS.

Listed by eighty seedsmen. Seeds tested: Bridgeman, 1900; Burpee, 1899, 1901; Farquhar, 1901; Henderson, 1901; Moore & Simon, 1900.

Description.—A typical cos variety, strictly self-closing, extremely large in comparison with either the butter or crisp sorts—large even for this group; late in season, and slow to shoot to seed. Plant fairly compact, decidedly upright, its leaves when young growing straight and flat, but when older inner ones becoming decidedly spoon-shaped and making a well-defined, well-blanced, firm head, decidedly loaf-shaped in form, rounded at top, and with leaves closely but not tightly overlapping one another. Leaves oval to slightly spatulate in shape, outermost ones smooth at surface and flat, innermost ones sparingly blistered and more or less cup-shaped, both, however, exceedingly regular in form, and thick, stiff, and coarse, but never in the least twisted nor crumpled in any part, and always with coarse hard veins, very large, hard midribs, entire margins, and flat borders. Color very dark green, never spotted nor brownish in any part. Quality excellent; very hard in texture, but exceedingly crisp, sweet, and of a quality and decided firmness, which makes a pleasant change from the soft buttery lettuces. Seeds whitish.

Comparison.—One of the popular varieties of the United States, though not one of the ten most largely grown sorts. Varieties of this class are very largely grown in Europe, but in America these lettuces do not seem to succeed as well as the butter and crisp varieties, and are not much grown. Many consider them the best of all in quality. They are hard and coarse in texture, but are very sweet, and possess a freshness and distinct quality which is often much liked and make a pleasant change from other varieties. Those who have never grown this class of lettuce should try a few plants. It may not be possible to grow them as well as they are grown in Europe, but they are generally satisfactory whenever tried, especially this variety, which is perhaps as self-closing and certainly as good in quality as any cos variety sold in this country. It is really the only cos sort planted to any extent in this country, and is certainly the best for either the private or market gardener. It succeeds very well in summer and can be grown to an immense size. Vilmorin states that plants weighing 6 pounds have been grown. It is similar to Prince of Wales, Green Cos, and Limagne Cos.

Synonyms.—White Cos, White Self-Folding Cos, Early White Self-Folding Cos, Heat-Resisting Cos, Landreth's Heat-Resisting Cos, Celery Cos, Romaine Cos, Trianon Cos.

History.—Listed by American seedsmen for at least forty years.

Illustrations.—A longitudinal section of the variety is shown on Plate XIX and an outside leaf on Plate XXVII. The inner head leaves of the variety are similar to that of Express Cos, on Plate XXVI, and the general character of the plant is illustrated by Express Cos, on Plate XV.

PASSION.

Listed by twenty-nine seedsmen. Seeds tested: Vincent, 1901-1903.

Description.—A decidedly butter variety, strictly cabbage-heading, large, very late, slow to shoot to seed. Young plant spreading and regular in growth, with leaves very straight and extending flatly over the ground. Mature plant spreading and forming a globular, firm, well-defined, well-blanchled head, with leaves closely overlapping one another. Leaves broad in shape, somewhat blistered, crumpled, and twisted, fairly stiff, very thick, entire at margins, flat at borders. Color dark green, faintly tinged at borders and somewhat blotched in other parts with dull brown, no part of plant distinctly spotted, and stem, base of midrib, and inner head leaves wholly green. Quality good; very buttery, fairly sweet, and with thick, soft leaves of much substance. Seeds blackish, generally slightly more brownish than most black-seeded sorts and sometimes described as brown.

Comparison.—Although old and well known this variety seems to be little grown except in California and the South. In the former section it is largely used by Italian gardeners, and in the latter it is a good sort for fall and winter growing. Although not quick to shoot to seed it never seems to do well in summer or when the weather is at all warm. Not recommended except for the localities named. Never a success at Washington, even when planted early in the spring. Wholly unsuited for forcing. Some seedsmen sell another strain of this variety, which is the same as this one except that the plants are somewhat duller green in color when young, and in some localities apparently not growing so large in size. The brighter colored strain seems to be the one preferred by most market gardeners. Both are similar to California Cream Butter. Next to these they are most like Maximum and hardly distinguishable from that variety when the plants are young.

Synonyms.—California Passion, San Francisco Passion, Southern Heart, Vincent's Passion.

History.—The oldest variety on the Pacific coast. First introduced there about 1870, from France, by Sevin, Vincent & Co.

Illustrations.—Same as for California Cream Butter.

PHILADELPHIA BUTTER.

Listed by forty-two seedsmen. Seeds tested: Bowen, 1901-1903; Burpee, 1899; Ferry, 1903; Thos. Griswold, 1903; Hastings, 1903; Livingston, 1903; Rice, 1902, 1903; Texas, 1901, 1903.

Comparison.—A popular variety of the United States, but not one of the ten most largely grown sorts. Extensively planted in all parts of this country. A great favorite with Philadelphia market gardeners for early spring sowing. The exact type has not yet been demonstrated by the Department trials. The description for the above samples is the same as that given for Reichner, and most of them appeared identical with that variety. A few were very slightly different in color, habits, or shape of head, though all were the same in usefulness and value. In other samples not included above the variety was plainly more globular in shape of head and more blistered and twisted in the leaf, or with a general appearance approaching Hubbard's Market.

Synonyms.—White Head and possibly Reichner.

Confusing names.—Maule's Philadelphia Butter, Philadelphia Speckled Dutch Butter, Philadelphia Dutch Butter, all different types from Philadelphia Butter.

History.—Listed by seedsmen in this country for at least twenty years.

Illustrations.—Same as for Reichner.

PRINCE OF WALES COS.

Listed by one seedsman. Seeds tested: Graham, 1903.

Comparison.—Listed in America by Canadian seedsmen only. Not sold nor grown in this country. Except for being a little later in season, somewhat larger in size and habit of growth, and proportionately broader in shape of heads, this variety is the same as Paris White Cos, and sometimes hardly distinguishable from it even in these respects. The usefulness and value of the two are probably the same. With the possible exception of Giant White Cos, unquestionably the largest of the cos varieties sold either in this country or Canada.

History.—First listed in America by Graham Bros., who state that the seed was obtained from Cooper, Taber & Co., of England, and has been grown in that country for many years.

Illustrations.—Same as for Paris White Cos.

PRIZE HEAD.

Listed by one hundred and forty-two seedsmen. Seeds tested: Farquhar, 1900, 1901; Landreth, 1899-1901; Ritter, 1899; Thorburn, 1899; Wernich, 1900.

Description.—A decidedly crisp variety, strictly bunching, large, early marketable, but intermediate in time of attaining fullest development, slow to shoot to seed. Plant spreading, low-growing, and consisting of a loose, rounded, or slightly flattened cluster of leaves, generally more or less open or spread out at the center and therefore never in the least cabbage-like nor solid, though nevertheless the inner part of plant is well blanched. Leaves short spatulate in shape, much blistered and crumpled, very little twisted, fairly rigid but not stiff, finely serrate at margins, excessively developed and much frilled at borders. Color bright brown, varying to bright green in less exposed parts and center of plant. Border of leaves no more colored than other parts, while stem of plant, base of midribs, and inner heart leaves are wholly green, and no part of plant is distinctly spotted. Quality good; sweet in flavor, very tender and crisp in texture, but leaf thin and lacking substance. Seeds large, whitish.

Comparison.—Probably planted more largely in the United States than any other variety, thirty acres of it being grown for seed in a single year by one seed grower. Grown everywhere, but most largely planted in the West. An excellent home variety and planted extensively for family use, but thin-leaved, soon wilting, not suited for shipping, and little planted by market gardeners. A very reliable summer variety. Not adapted for forcing and never used for that purpose. The seed is lighter in weight than any other of our standard varieties. More like American Gathering than any other sort; in fact, sometimes hardly distinguishable from that variety, and often used in filling orders for it. Other similar sorts are Onondaga and Tomhannock.

Synonyms.—Briggs' Prize Head, Burpee's Prize Head, Currie's Prize Head, Ferry's Early Prize Head, Wernich's Prize Head, Early Prize Head, Peer of All, Emerald, Cincinnati Market Gardener's Brown Curled, Salzer's Peer of All, Buckbee's Ice Drum Head.

History.—Apparently named and first introduced by D. M. Ferry & Co., about twenty-five years ago.

Illustrations.—Two views of mature plants are shown on Plates V and XXI. The young plant is similar to that of Hanson, on Plate XXII, and the leaf is between that of Grand Rapids and Hanson, on Plates XXV and XXVI, respectively.

RED BESSON.

Listed by one seedsman. Seeds tested: Gregory, 1899-1902; R. H. Johnson, 1903.

Description.—A decidedly butter variety, strictly cabbage-heading, large, late-intermediate in season, slow to shoot to seed. Plant extremely loose, very spreading, and forming a globular or slightly oval, fairly defined, soft, well-blanchled head, with leaves flatly but very loosely overlapping one another. Leaves very broad, cup-shaped when young, excessively blistered and crumpled, fairly twisted, very thin, soft and limp, entire at margins, flat or blistered at borders. Color very brilliant brown, interspersed with bright green in depressed or less exposed parts, the two colors being in very strong contrast and showing off in a striking manner the blistered character of the leaves. Stem of plant and base of midribs pink in color, inner heart leaves spotted, but not otherwise colored; spotted on outside or exposed parts but not appearing so unless closely examined. Quality good; sweet and very buttery in flavor, soft in texture, but leaves thin and lacking substance. Seeds blackish.

Comparison.—Scarce and little planted. Peculiar as the most solid, brilliant brown-colored lettuce in cultivation, and for this reason attractive to amateurs, but of little use to market gardeners except for limited sale as a novelty. Too spreading in habit and too soft a head to be generally valuable. Wholly unsuited for forcing. It makes large, very showy heads, and possesses real merit also as a fine summer variety. More like Brown Head than any other lettuce, especially in color.

Synonyms.—Bronzed Red, Continuity.

History.—Listed by American seedsman for at least twenty-four years.

Illustrations.—A mature plant of the variety is shown on Plate XIII, and the character of the leaf is illustrated by that of Tennis Ball Black-Seeded, on Plate XXIII.

RED WINTER COS.

Listed by one seedsman. Seeds tested: Germain, 1900-1903.

Description.—A typical cos variety, fairly self-closing, large in comparison with either the crisp or butter sorts, but only large medium for this group. Late in season, slow to shoot to seed. Plant fairly compact, peculiarly upright in growth, and forming a well-defined, long loaf-shaped, well-blanchled but soft head, its leaves loosely overlapping one another, and their upper parts meeting at the margins only, or but slightly overlapping at top of head. Leaves oval to slightly spatulate in shape, slightly emarginate, very smooth and flat, never blistered, crumpled, nor twisted, but because of their limp nature often rolled back at borders or falling loosely away from the plant. Thin leaved for a cos, but thick for a crisp or butter sort; margins entire and borders flat. Color deep bright brown, the deepest color being at borders, especially with inner leaves; unexposed parts of leaf bright green, the line between exposed and unexposed parts often marked by a sharp color difference; stem of plant and midrib of all leaves to their very base plainly colored, very distinctly spotted on inner head leaves. Because so deep brown on exposed parts of plant the spots there are not evident unless closely examined. Quality good; sweet, crisp, soft in texture for a cos sort. Seeds dark brown.

Comparison.—Scarce and rarely planted. By far the deepest red-colored cos variety, and possessing the distinction also of being remarkably hardy to cold and very constant in character, probably no other cos comparing with it in these respects. Other than for these qualities the variety can not be recommended in any way. On account of its color and soft, limp leaves it would seem to be unsuited for market gardeners. Wholly unlike any other cos known in this country.

History.—Listed by American seedsman for at least forty years but not by the Germain Fruit Company till 1898.

Illustrations.—A mature plant of the variety is shown on Plate XIV and an outside leaf on Plate XXVII.

REICHNER.

Listed by seven seedsmen. Seeds tested: Johnson & Stokes, 1899, 1901; Thorburn, 1899-1903.

Description.—A decidedly butter variety, strictly cabbage-heading, medium in size, early, shooting to seed at an early intermediate date. Young plant very upright in habit, with leaves sometimes so much twisted as to make the plant appear like several plants grown together. Mature plant very compact and forming a globular or slightly elongated, firm, well-defined, well-blanced head, with leaves closely overlapping one another except outside ones which are characteristically turned and twisted backward at their uppermost borders. Head peculiarly long and pointed when first forming, the twisted habit of the leaves most pronounced at this period of growth. Leaves broad, fairly blistered and crumpled, much twisted at their uppermost part, fairly thick but inclined to be slightly loose and limp rather than stiff; margins entire and borders flat. Color light green, never spotted nor brownish in any part. Quality good; delicate, sweet, buttery in flavor, soft in texture. Seeds whitish.

Comparison.—Under this or some other name, one of the popular lettuces of the United States, though not one of the ten most largely grown types. A favorite with Philadelphia gardeners. An exceedingly valuable sort for the market gardeners to sow in the autumn or in early spring. Excellent also for forcing in frames and one of the best for wintering over outdoors. In some places it grows so well under the aforesaid conditions that no variety compares with it for beautiful, solid heads. Rarely suited for private gardens. Wholly unsuited for summer growing. Very similar to Philadelphia Butter and Silver Ball, and possibly identical with one or both of them. Next to these varieties most like White Loaf.

Synonyms.—Reichner's Forcing, Reichner's White Butter, Reichner's Early White Butter, Florida Header, Waldorf, Henderson's Waldorf, Neapolitan Sash, Simon's Neapolitan Sash, Stringer's Early White Butter, Rochester Market, Ridge, Yellow Queen, Mongolian.

History.—Named and first listed in 1893 by Johnson & Stokes. It is said by them to have originated with the Reichners, who are described as prominent market gardeners of Philadelphia.

Illustrations.—A mature plant of the variety is shown on Plate XVI. The solidity of the head is illustrated by Mette's Forcing and Hartford Bronzed Head, on Plate XIX, and the character of the young plant by Nansen, on Plate XXII.

ST. LOUIS BLACK-SEEDED FORCING.

Listed by six seedsmen. Seeds tested: Diekmann-Dusard, 1899, 1900, 1902; plant, 1901-1903; Schisler-Corneli, 1902.

Description.—A decidedly butter variety, strictly cabbage-heading, large medium in size, early-intermediate in season, quickly shooting to seed. Plant spreading, loose, and forming a globular, fairly defined, somewhat firm, well-blanced head, with leaves loosely overlapping one another. Leaves broad in shape, blistered and crumpled, slightly twisted, fairly stiff and thick, entire at margins, flat at borders. Color medium green, of a somewhat dull grayish shade, and tinged with brown in places, no part of leaf distinctly spotted; border no more colored than other parts, and inner head leaves and stem of plant wholly green. Quality good; fairly sweet, decidedly buttery in flavor, soft in texture. Seeds very blackish.

Comparison.—One of the lesser grown varieties. Said by the introducers to be the leading variety for forcing with St. Louis market gardeners. Not yet tested in Washington in greenhouses, but for outdoors both there and in other places it seems to be unreliable and unsatisfactory. An unusually large and loose-leaved variety for forcing. Described as a very large, loose, black-seeded Boston Market, but possibly more like Emperor William, German Incomparable, and Defiance than that variety.

Synonyms.—Favorite, Saunders.

Confusing names.—St. Louis Butter, St. Louis Market, both different types from St. Louis Black-Seeded Forcing.

History.—Introduced by Plant Seed Company in 1892.

SHOTWELL'S BROWN HEAD.

Listed by five seedsmen. Seeds tested: Thorburn, 1900; Wood, Stubbs & Co., 1903.

Description.—The above samples, which refer only to the common and apparently correct type of this variety, are described as follows: A decidedly butter variety, strictly cabbage-heading, medium in size, intermediate in season, slow to shoot to seed. Plant somewhat loose and spreading, forming a globular or slightly oval, well defined, soft, or slightly firm, well blanched head, with leaves flatly but loosely overlapping one another. Leaves cup-shaped when young, broad when full size, much blistered and crumpled, fairly twisted, somewhat thin, soft, and limp, entire at margins, flat at borders. Color bright brown, interspersed with bright green in depressed or less exposed parts, stem of plant and base of midribs faintly colored, inner head leaves sparingly spotted but not otherwise colored, outside of plant also spotted but the exposed parts of leaf such a deep brown color that spots are almost same color as rest of leaf and not evident unless closely examined. Quality, good; sweet and very buttery in flavor, soft in texture, but leaves thin and lacking substance. Seeds blackish.

Comparison.—One of the lesser grown varieties and rare. On account of its dark color not suited for market gardeners nor to be recommended to amateurs when other sorts like Hartford Bronzed Head, of similar color and character, are so much better for the purpose. A good summer variety, and succeeding especially well in the autumn. Most like Hartford Bronzed Head, in fact so much like it in appearance as often to be sold for that variety or its synonyms. Some seedsmen claim the two are identical, but such is a serious mistake. Shotwell's Brown Head is similar in color to Brown Head.

Confusing names.—Batavian Brown Head, Brown Head, Bronzed Head, Hartford Bronzed Head, all different types from Shotwell's Brown Head.

History.—Apparently introduced by J. M. Thorburn & Co., who have listed it for at least nineteen years.

Illustrations.—The habit of the mature plant is not well shown by any of the following illustrations, but is perhaps best illustrated by Yellow Winter, on Plate IX, though head is longer in shape and leaves less cup-shaped. The solidity of the heads is illustrated by Hartford Bronzed Head on Plate XIX.

SHOTWELL'S BROWN HEAD (Bridgeman).

Listed by one seedsmen. Seeds tested: Bridgeman, 1901-1903.

Description.—A decidedly butter variety, strictly cabbage-heading, medium in size, intermediate in season and time of shooting to seed. Young plant very regular in growth, with leaves growing very straight and extending flatly over the ground.

Mature plant somewhat spreading, low growing, and forming a globular, fairly defined, firm, well blanched head, with leaves closely and flatly overlapping one another. Leaves broad in shape, fairly blistered, crumpled and twisted, thick and stiff, entire at margins, flat at borders. Color medium dull green, tinged throughout with very faint dull brown, rarely, however, becoming brownish in defined areas or blotches, freely and distinctly spotted on outside leaves, and sparingly so on inner heart leaves, border no more colored than other parts of leaf. Stem of plant and base of midribs plainly colored and inner leaves also spotted but not otherwise

colored. Quality, fair; sweet, decidedly buttery in flavor, fairly tender. Seeds blackish.

Comparison.—Scarce and little planted. Too late, unreliable, dull green in color, and possessing no specially good qualities to recommend it as superior to other sorts for either private or market gardening. Wholly unfit for forcing. Though not quick to shoot to seed, it never seems to do well during summer. Succeeded best at Washington in the autumn. More like Brown Genoa than any other variety. Much larger, later, and more spreading than the brown or common type generally sold by seedsmen.

Illustration.—Same as for Brown Genoa.

SILVER BALL.

Listed by thirty-nine seedsmen. Seeds tested: Burpee, 1899-1902; Buist, 1901; Comstock-Ferre, 1903; Ferry, 1903; Dreer, 1903; Johnson & Stokes, 1903; Livingston, 1901; Moore & Simon, 1901; Michell, 1903; J. M. McCullough, 1903.

Comparison.—A popular variety of the United States, though not one of the ten most largely grown sorts. The exact type has not yet been fully demonstrated by the Department trials. Some of the samples appeared to be the same as Reichner, but more often they were not quite so even and contained plants approaching those of Deacon. Another type resembling Large Yellow Market, but not included in any of the above samples, has also been sold by seedsmen and caused further confusion.

Synonyms.—Burpee's Silver Ball, Early Silver Ball.

History.—Introduced in 1884 by W. Atlee Burpee & Co., who state that the variety originally came from France.

Illustrations.—Same as for Reichner.

SPECKLED DUTCH BUTTER.

Listed by twenty-six seedsmen. Seeds tested: Landreth, 1899-1901; Livingston, 1900; Moore & Simon, 1901.

Description.—A medium butter variety, fairly cabbage-heading, medium in size, early-intermediate in season and time of shooting to seed. Young plant with leaves fairly upright and twisted, sometimes so much so as to resemble several plants growing together. Mature plant compact, low growing, very flattened at top, and forming a solid, well blanched though indistinctly defined head, with leaves so much twisted and irregularly compacted together as to produce a torn effect or bursted-like head; no distinct separation between head proper and outer part of plant. Leaves broad in shape, crumpled and twisted, fairly thick and stiff, hard and not easily torn, obscurely crenate at margins, undulate at borders. Color medium green, freely and distinctly spotted, faintly tinged in places, especially at border, inner head leaves and stem of plant wholly green. Quality fair; hard in texture, slightly buttery in flavor, but lacking delicacy and sweetness. Seeds small, whitish.

Comparison.—One of the lesser grown varieties. Not planted to any extent except in the vicinity of Philadelphia, where it is perhaps more largely grown in early spring and in cold frames than any other lettuce. Very hardy, reliable, and an admirable sort for market gardeners, but not suited for summer growing. Distinctly a market gardener's sort, but for private gardeners other sorts of better quality are recommended. Very distinct and not well compared to other varieties. Its habit is similar to Tom Thumb, its color to Big Boston, while its usefulness and value are about the same as Golden Queen.

Synonyms.—Speckled Early Dutch Butter, Simon's Speckled Dutch Butter, Michell's Early Speckled Dutch Butter, Philadelphia Dutch Butter, Hornberger's Dutch Butter, Early Dutch Butter, Dutch Butter, Brown Speckled Dutch Butter, Stringer's Early White Butter, Virginia Solid Header.

History.—The D. Landreth Seed Company claim to have first introduced this variety in 1848 and describe it as the result of a greenhouse hybridization between the old Hammersmith and Madeira.

Illustrations.—A mature plant of the variety is shown on Plate XVIII and a leaf on Plate XXIII. A longitudinal section is similar to that of Tom Thumb, on Plate XIX, and a young plant to that of Big Boston, on Plate XXII.

SUGAR LOAF.

Listed by one seedsman. Seeds tested: Gregory, 1899–1903.

Description.—Classed as a crisp sort and cabbage-heading, though really somewhat resembling the butter varieties and often bunching in habit. Very large and late. Slow to shoot to seed. Plant spreading and consisting of a vase-shaped cluster of leaves, very regular and formal in arrangement, the middle part of which when young is much hollowed or undeveloped, but when mature, becomes filled with a firm, well-blanced, incomplete cabbage-like head, the large part of the plant, however, consisting of the outer, nonheading, looser portion. Leaves broad in shape, little blistered, crumpled and twisted, very much turned backward at borders and thereby conforming to the vase form of the plant; also thick, stiff, and coarse, their margins varying from serrate to obscurely crenate and borders from frilled to undulate. Color largely brownish green, but with some portions a full brown and less exposed parts and center of plant light green, no part of plant spotted; stem of plant, inner head leaves, and base of midribs wholly green. Quality fair; hard in texture, fairly sweet, slightly buttery in flavor. Seeds whitish.

Comparison.—Little known or planted. Used mostly in New England. Too late and unreliable, as well as too brown in color and poor in quality, to be recommended either to private or market gardeners, except only in special soils or under conditions where, upon trial, it may be found to succeed well. More like Tyrolese than any other lettuce, not only in appearance but in usefulness and value as well. The habit is similar to Malta.

Confusing names.—White Loaf, Large White Loaf, Bolgiano's White Loaf, all different from Sugar Loaf.

History.—Named and introduced in 1882, by James J. H. Gregory & Son, who state that the variety was received from a customer in Illinois in the spring of 1879.

Illustrations.—Two mature plants of the variety are shown on Plate XVII.

SUTTON'S GIANT CABBAGE.

Seeds tested: Michell, 1899–1901.

Comparison.—Same as Maximum, except that seeds are yellowish. Usefulness and value probably also the same.

History.—Sold in this country only during 1900 and 1901 by Henry F. Michell in the original sealed packets received from Sutton, of England.

Illustrations.—Same as for Maximum.

TENNIS BALL BLACK-SEEDED.

Listed by one hundred and sixteen seedsman. Seeds tested: Burpee, 1900–1903; Burwell, 1899; Farquhar, 1901; Henderson, 1901; Landreth, 1899, 1901; Northrup-King, 1903; Rawson, 1900, 1901; Thorburn, 1899–1901.

Description.—A decidedly butter variety, strictly cabbage-heading, large-medium in size, early-intermediate in season, shooting to seed at an intermediate date. Plant compact or slightly spreading and forming a globular, firm, very well-defined, well-blanced head, with leaves very closely overlapping one another. Plant when in flower sends out many side stems instead of one large main stem. Leaves broad, excessively blistered and crumpled, little twisted, thin, almost limp and loose, entire

at margins, blistered or flat at borders. Color light green, never spotted nor brownish in any part. Quality excellent; delicate, sweet, buttery in flavor, soft in texture, but leaf thin and lacking substance. Seeds blackish, rarely very black.

Comparison.—One of the four most largely grown varieties of the United States. Succeeds everywhere and at all seasons. Under this or some other name largely planted in all parts of this country, especially the East. In the vicinity of Boston, New York, Philadelphia, Baltimore, and Washington it is more largely grown by market gardeners in summer than any other variety. Except that it is too loose in habit for forcing, an all-round variety. Its adaptability for all purposes is shown by the descriptive character of its synonyms given below. No other variety has been so largely renamed. Good for spring, summer, or autumn, and stands wintering over outdoors at Washington as well as any other variety. Highly recommended to both private and market gardeners. Sure header, very reliable, hardy, excellent shipper, and good seller. Very similar to Yellow-Seeded Butter, Thick Head Yellow, and Hubbard's Market. It is distinguished from the latter by its thinner and more crumpled leaves and its lighter green color.

Synonyms.—Early Tennis Ball Black-Seeded, Arlington Tennis Ball Black-Seeded, All Heart, Dreer's All Heart, All the Year Round, Baltimore Cabbage, Black-Seeded Butter, Black-Seeded Summer, Bolgiano's Black-Seeded Summer, Griffith & Turner's Black-Seeded Summer, Bloomsdale Butter, Bloomsdale Reliable, Crosman's Improved, Dickmann's Private Stock, Market Gardener's Private Stock, Thorburn's Market Gardener's Private Stock, Eclipse, Everlasting, Everett's Everlasting, Farquhar's Long-Standing, Frankfort Head Black-Seeded, Lapp's Head, Large Butter Head, Long Island Winter, Ninety and Nine, Twentieth Century, White Peach, Sensation, Moore's Magnum Bonum, Salamander, Perfected Salamander, Market Gardener's Salamander, Satisfaction Black-Seeded, Price & Knickerbocker's Mammoth Head, New York Black-Seeded Butter, Schwill's Hard Head.

History.—A very old variety of European origin and known in this country for at least forty-eight years.

Illustrations.—A leaf of the variety is shown on Plate XXIII. The general habit of the mature plant is illustrated by California Cream Butter, on Plate VIII, and the solidity of the heads by Mette's Forcing, on Plate XIX.

TENNIS BALL WHITE-SEEDED.

Listed by ninety-seven seedsmen. Seeds tested: Buckbee, 1901; Burpee, 1901; Burwell, 1899; Farquhar, 1900; Johnson & Stokes, 1899; Landreth, 1899-1901; Rawson, 1901; Thorburn, 1899-1901, 1903.

Description.—A decidedly butter variety, strictly cabbage-heading, small-medium in size, very early in season, and shooting to seed at once in hot weather. Plant very compact and forming a globular, firm, well-defined, well-blanced head, with leaves very closely overlapping one another. Leaves broad in shape, blistered, crumpled, slightly twisted, fairly stiff and thick, entire at margins, flat or partly blistered at borders. Color dull medium green, sometimes brownish over large areas and in distinct blotches, but never distinctly spotted, and inner head leaves and stem of plant wholly green. Quality good; sweet, buttery in flavor, soft in texture. Seeds whitish.

Comparison.—A popular variety of the United States, though not one of the ten most largely grown sorts. For years almost the only variety used in the East for forcing in greenhouses. About fifteen years ago larger sorts came into favor and to-day the largest growers do not seem to plant this variety. Wholly unsuited for summer growing, not recommended as reliable for growing outdoors, and not suited for private gardeners. A splendid shipper and distinctly a market gardener's forcing variety. More like Hothouse than any other lettuce. Except for differences in size and season, very similar to Victoria Red-Edged and Milly.

Synonyms.—Arlington Tennis Ball White-Seeded, Godden's White-Seeded Forcing, Boston Market, Buckbee's Ideal, Frankfort Head White-Seeded.

History.—A very old variety of European origin and known in this country for at least forty-two years.

Illustrations.—The general habit of the variety is illustrated by California Cream Butter, on Plate VIII; the leaf by Tennis Ball Black-Seeded, on Plate XXIII, and the solidity of the heads by Matador, on Plate XX.

THICK HEAD YELLOW.

Listed by six seedsmen. Seeds tested: Burpee, 1902, 1903.

Description.—A decidedly butter variety, strictly cabbage-heading, large, late, fairly slow to shoot to seed. Plant spreading, very loose in habit, and forming a globular, well-defined, soft, or slightly firm, well-blanching head, with the leaves flatly but loosely overlapping one another. Leaves very broad in shape, excessively and very coarsely blistered and crumpled, little twisted, somewhat thin, almost limp, entire at margins, flat, partly blistered, or somewhat inclined to undulate at borders. Color light green, very glossy and rich, never spotted nor brownish in any part. Quality excellent; mild, delicate, sweet, buttery in flavor, soft in texture. Seeds whitish.

Comparison.—Scarce and little planted. Not suitable for forcing, but a good variety for outdoors, though not as reliable for this purpose as Tennis Ball Black-Seeded. Being one of the most crumpled and blistered in leaf and most glossy light green in color of all the varieties, it becomes in some respects one of the most attractive lettuces in cultivation. Recommended for trial to both private and market gardeners. More like Tennis Ball Black-Seeded than any other, differing principally in larger size, softer head, looser habit, and brighter, more glossy green color.

Synonyms.—Erfurt Large Thick Head Yellow, Mammoth Erfurt Yellow.

History.—First listed by American seedmen about twelve years ago, and described at that time as a new German variety.

Illustrations.—The habit is between that of California Cream Butter, on Plate VIII, and Red Besson, on Plate XIII. The general character of the leaf is illustrated by that of Tennis Ball Black-Seeded, on Plate XXIII, and the solidity of the heads by Matador, on Plate XX.

TOMHANNOCK.

Listed by thirty-nine seedsmen. Seeds tested; Burpee, 1899-1901, 1903.

Description.—A decidedly crisp variety, strictly bunching, large, early marketable but intermediate in attaining fullest development, slow to shoot to seed. Plant very spreading and consisting of a few but very large leaves gathered into a loose cluster at the top of an enormously thick, long stem, the growth somewhat tree-like and the cluster somewhat flattened in shape, more or less open or spread out at center and never in the least cabbage-like nor dense, though the inner part is well blanched. Leaves spatulate in shape, much blistered and crumpled, very little twisted, fairly rigid but not stiff, finely serrate at margins, excessively frilled and much developed at borders. Color almost solid deep bright brown, varying to bright green in less exposed parts and center of plant, borders of leaves no more colored than other parts, stem of plant, base of midribs and inner heart leaves wholly green, and no part of plant distinctly spotted. Quality good; sweet in flavor, very tender and crisp in texture, but leaf thin and lacking substance. Seeds large, whitish.

Comparison.—Scarce and little planted. Not suited for forcing and rarely as satisfactory for outdoors as Prize Head or other varieties of similar color and character. The largest stemmed of all varieties except, perhaps, Malta, and this, together with its tree-like habit and enormous leaves, gives it a very striking appearance, but unfits

it for marketing. Probably of little value to market gardeners. More like Prize Head than any other lettuce, being like it in color, but different in habit.

Synonyms.—Burpee's Tomhannock, Bronzed Tomhannock.

History.—Introduced in 1886 by W. Atlee Burpee & Co., and said by them to have originated in northern New York.

Illustrations.—A young plant of the variety is shown on Plate XXII. The habit of the mature plant is illustrated by that of Prize Head on Plate V, and the character of the leaf is about between that of Grand Rapids and Hanson, on Plates XXV and XXVI, respectively.

TOM THUMB.

Listed by nine seedsmen. Seeds tested; Burpee, 1899-1903; Farquhar, 1900-1903.

Description.—Neither a strictly crisp nor butter sort, but perhaps most properly placed with the latter; decidedly cabbage-heading, small, medium in size, early, and shooting to seed unusually slowly for an early variety. Plant extremely compact, low growing, flattened on top and forming a hard, well-blanced but indefinitely defined head, with leaves so twisted at their borders and irregularly compacted together as to produce a torn effect or burst like head; no distinct separation between head proper and outer part of plant, the whole being nearly all head. Leaves broad in shape, very much blistered, crumpled, and twisted, very thick and stiff, obscurely crenate at margins, slightly undulate at borders. Color very dark green, never spotted nor brownish in any part. Quality good; fairly sweet, hard in texture, between the butter and crisp varieties in flavor and firmness. Seeds blackish, small to medium in size.

Comparison.—One of the lesser grown varieties and scarce. Said to be a favorite in England for hotbed and pot culture. Recommended by seedsmen in this country as a good greenhouse sort. A few instances of its successful use for this purpose have come to notice, but for most gardeners it is decidedly too small, although reliable, easily grown, and exceedingly compact. Not adapted for general summer growing, but may be planted outdoors successfully in autumn or early spring. Suited for both the amateur and market gardener. Very distinct and not well compared to other varieties. Its color is even darker green than New York. The habit is somewhat similar to Speckled Dutch Butter and Mignonette, and its usefulness and value about the same as Golden Queen:

Synonyms.—Wheeler's Tom Thumb, Landreth's Forcing.

History.—First introduced in England by H. Wheeler & Son, and first listed by American seedsmen a few years later as Wheeler's Tom Thumb.

Illustrations.—A mature plant of the variety is shown on Plate XVI, and a longitudinal section on Plate XIX. The general character of the leaf is the same as that shown of Speckled Dutch Butter, on Plate XXIII.

TROUT.

Listed by one seedsmen. Seeds tested: Farquhar, 1899-1903.

Description.—A decidedly butter variety, strictly cabbage-heading, small medium in size, late, slow to shoot to seed. Plant compact and forming a globular or slightly pointed, somewhat imperfectly defined, firm, well-blanced head and except for being turned back at their extreme top the leaves of the head closely overlap one another. Leaves broad, fairly blistered, crumpled, twisted, thick and stiff, entire at margins, flat at borders. Outside of plant completely spotted with dark brown, but spots so numerous, minute, and blended together as really to make the plant solid dark brown in color. Inside head leaves very distinctly spotted, the spots here being large and well separated. Stem of plant and base of midribs plainly colored. Quality good; sweet, buttery, soft in texture. Seeds whitish.

Comparison.—Scarce and little known or planted. So much smaller, later, and less reliable than other sorts of like habit and character that it can not be recommended except to amateurs, who will find it attractive because of its beautifully spotted inner heart leaves. For serving on the table it makes a novel and attractive dish, no other variety comparing with it for distinctly spotted inner heart leaves. Golden Spotted is more distinctly and brightly spotted on the outside leaves, but less so on the inner leaves than this one. Succeeds fairly well in Summer. The habit is quite similar to Hartford Bronzed Head and the color much like Shotwell's Brown Head.

History.—Listed by R. & J. Farquhar & Co. for at least twenty years.

Illustrations.—A longitudinal section of the plant is similar to that of Hartford Bronzed Head, on Plate XIX, except that the plant is less compact and does not make so perfect a head. The leaf is similar to that of Tennis Ball Black Seeded, on Plate XIII.

TYROLESE.

Listed by one seedsman. Seeds tested: Saul, 1903.

Description.—A decidedly crisp variety, cabbage-heading, very late, very large, slow to shoot to seed. Plant loose, spreading, central part somewhat upright, especially when young. Stem of plant very large and long. Head globular to short oval in shape, well defined, well blanched, and its leaves regularly overlapping one another but with loose spaces between them, and head therefore soft, though the leaves composing it are very thick and stiff. Leaves short spatulate in shape, sometimes as broad as long, slightly but coarsely blistered and crumpled, little twisted, very coarse in appearance, with prominent, heavy veins, and large protruding midrib; margins deeply serrate, borders frilled. Color dull green, faintly and indistinctly blotched with dull brown in places, border green or at least not distinctly brownish; inner head leaves wholly green but stem of plant and base of midribs plainly colored, no part of plant spotted. Quality fair; coarse, and hard in texture, but of a sweetness and firmness which are often much liked. Seeds large, whitish.

Comparison.—Very little known or planted. Too late, loose, and spreading in habit and head too soft to be recommended to market gardeners or as a very useful variety for amateurs. Other varieties like Hanson are decidedly preferable and more reliable. Possibly attractive to some amateurs because of the immense size to which the plants can be grown. Succeeds well in summer. More like Sugar Loaf than any other lettuce, differing principally in color and being less vase-shaped in form.

Illustrations.—A mature plant of the variety is shown on Plate II.

UNRIVALED.

Listed by six seedsmen. Seeds tested: Bruce, 1902, 1903; Plant, 1902; Thorburn, 1903.

Comparison.—Little known or planted, but rapidly coming into favor with market gardeners in places where the Big Boston variety does well. Its usefulness and value are exactly the same as that variety, but it is preferred by some gardeners because solid green in color and, except for being slightly lighter green and without the brownish tinge at the borders, it is the same as Big Boston. Its claim for recognition is based wholly on this difference. For description see Big Boston.

Synonyms.—Universal, Unsurpassed, Landreth's Unsurpassed.

History.—First introduced into America by John A. Bruce & Co. and J. A. Simmers in 1902 and first listed by seedsmen in this country a year later. Evidently the same variety listed by Vilmorin-Andrieux & Co., of France, as *Sans Rivalé*.

VICTORIA RED-EDGED.

Listed by thirteen seedsmen. Seeds tested: Buckbee, 1899; Graham, 1903; Simmers, 1899, 1900; Steele, Briggs & Co., 1901, 1903.

Description.—A decidedly butter variety, medium in size, early-intermediate in season, and shooting to seed at an intermediate date. Plant compact and forming a globular, firm, well-defined, well-blanced head, with leaves closely overlapping one another. Leaves broad in shape, blistered and crumpled, slightly twisted, fairly thick and stiff, entire at margins, flat or partly blistered at borders. Color medium green, tinged with brown in places, sometimes over large areas and in distinct blotches but never distinctly spotted, and inner head leaves and stalks never colored. Quality good; sweet, buttery in flavor, soft in texture. Seeds whitish.

Comparison.—Scarce in this country and very little planted. Strictly a market gardener's sort. Excellent for forcing, early spring, or late fall sowing, but not well adapted for summer. More like Milly than any other lettuce, and possibly identical with it. After this variety the most like Tennis Ball White-Seeded and California Cream Butter.

Synonyms.—There seems to be considerable misunderstanding regarding this variety. The Jerome B. Rice Seed Company and the Chesmore-Eastlake Seed Company mention it as the same as Prize Head, and in years past it was catalogued by a considerable number of seedsmen as Large Drum Head, both of which are quite different from the original type, which is the one described above.

History.—Listed by American seedsmen for at least twenty-seven years. Of foreign origin.

Illustrations.—The habit of the mature plant is illustrated by that of California Cream Butter, on Plate VIII, the solidity of the heads by that of Matador, on Plate XX, and the character of the leaf by that of Tennis Ball Black-Seeded, on Plate XXIII.

WHITE CHAVIGNE.

Listed by four seedsmen. Seeds tested: Ferry, 1903; Harmon, 1901, 1903; Tilton, 1900, 1901; Veitch, 1899.

Description.—A decidedly butter variety, strictly cabbage-heading, large, late-intermediate in season, slow to shoot to seed. Plant fairly compact and forming a globular, very firm, well-defined, well-blanced head, with leaves closely overlapping one another. Leaves broad in shape, blistered and crumpled, slightly twisted, fairly stiff, very thick, entire at margins, flat or partly blistered at borders. Color dark green, never spotted nor brownish in any part. Quality excellent; sweet, very buttery in flavor, and with soft, thick leaves of much substance. Seeds whitish.

Comparison.—Little planted in this country, but rapidly becoming known as a reliable summer variety. Claimed by some to make better heads during summer than any other lettuce. Its usefulness and value for our country have been well proved and it is highly recommended to both market gardeners and amateurs. Very hardy to cold and a good sort to winter over outdoors. Not adapted for forcing. Except for difference in color it is very similar in appearance to California Cream Butter and is a good sort to grow wherever that variety does well. Very similar also to Hubbard's Market, though larger and darker green in color.

Synonyms.—Rosette, Maule's Rosette, Farmer's Pride, Bolgiano's Farmer's Pride, White-Seeded Summer, Griffith & Turner's White-Seeded Summer, Kendel's Excelsior Head.

History.—Recently listed by American seedsmen as a new French variety, though the name has been in use by American seedsmen for at least twenty-one years. Tests of it made by experimenters about eighteen years ago report it to be similar to Deacon and Silver Ball and the type recognized at that time seems to be quite different from the one which is now being advertised by seedsmen.

Illustrations.—Same as for California Cream Butter.

WHITE FORCING.

Listed by three seedsmen. Seeds tested: Buist, 1899-1901; Bolgiano, 1899-1903.

Description.—A fairly butter variety, strictly cabbage-heading, very small, extremely early, and shooting to seed at once when grown outdoors. Plant extremely compact, and forming a heart-shaped or somewhat pointed, well-defined, firm, well-blanchéd head, with leaves closely overlapping one another, except that their borders are turned characteristically backward somewhat like the petals of a rose, the head thereby presenting a looser leaf growth and being somewhat obscured. Leaves broad in shape, blistered, crumpled, twisted, thick, stiff, obscurely crenate at margins, slightly undulate at borders. Color a beautiful light green, never spotted nor brownish in any part. Quality excellent; very sweet and slightly buttery in flavor, but of a crisp, firm texture and distinct quality, different from most butter sorts and somewhat approaching the crisp varieties. Seeds very small, whitish.

Comparison.—One of the lesser grown varieties. Suitable only for forcing and being the earliest, smallest, and most compact of all varieties except perhaps Emperor Forcing and Density, it would seem to be the best suited for cold frames or hotbeds, but it is decidedly too small for general greenhouse use. Wholly unfit for the amateur or for outdoor culture. More like Golden Queen than any other lettuce, differing in no important respects except size and earliness.

Synonyms.—Bolgiano's White Forcing, Perfection Early White Forcing, Buist's Perfection White Forcing.

Confusing names.—California Giant White Forcing, Giant White Forcing, Godden's-White-Seeded Forcing, all different types from White Forcing.

History.—Listed by American seedsmen for at least seventeen years.

Illustrations.—A mature plant of the variety is shown on Plate VII. The solidity of the heads is illustrated by that of Matador, on Plate XX.

WHITE GIANT.

Listed by two seedsmen. Seeds tested: Ewing, 1902, 1903.

Comparison.—So far this new variety has been used in this country and Canada for experimental planting only. The trials of it at Washington have not yet been sufficient to determine its exact usefulness and value nor to say which of our varieties it most closely resembles. It is evidently a distinct sort, similar in appearance to Tennis Ball Black-Seeded, but very late in season, mammoth in size, and very spreading in habit. At Washington it has done very poorly, being a very uncertain header and unreliable, but in California it seems to grow well. Wholly unfit for forcing. Seeds blackish.

History.—Listed first in America by Wm. Ewing & Co.

WHITE LOAF.

Listed by four seedsmen. Seeds tested: F. W. Bolgiano & Co., 1899, 1900, 1902; J. Bolgiano & Son, 1903; Griffith & Turner, 1899-1903.

Comparison.—A favorite with Washington and Baltimore market gardeners, but apparently not known nor planted elsewhere. In the vicinity of these cities it is largely used for early spring sowing and is almost the only sort planted for wintering over outdoors. For the last three years stocks of this variety have been very much mixed, but if the pure strain is obtained this is a most excellent variety and is highly recommended to both amateurs and market gardeners. Usefulness and value much the same as Reichner and, except that it is large-medium in size, the description is the same as given for that variety. White Loaf is, however, a little later to mature and is slower to shoot to seed, as well as more crumpled, but less twisted, in its leaves.

Synonyms.—Large White Loaf, Bolgiano's White Loaf, Large Loaf, Loaf.

Confusing name.—Sugar Loaf, which is a very different type from White Loaf.

History.—Apparently named and first introduced by J. Bolgiano & Son about ten years ago.

Illustrations.—The general habit of the mature plant is illustrated by that of Reichner, on Plate XVI; the young plant by that of Nansen, on Plate XXII, and the solidity of the heads by that of Matador, on Plate XX.

WHITE STAR.

Listed by thirty seedsmen. Seeds tested: Ferry, 1899, 1901; Tilton, 1901.

Description.—A crisp variety, sometimes cabbage-like in growth, but generally decidedly more bunching than cabbaging; marketable at an intermediate season, but late outdoors in attaining fullest development; very large; slow to shoot to seed. Plant fairly compact for so large a sort, and consisting of a dense, well-blanced cluster of leaves, rounded to broadly V-shaped in form, its innermost heart leaves generally curving over one another and forming an incomplete concealed cabbage-like head, partly visible at the top of the plant. Leaves very broad, excessively blistered, crumpled, and twisted into large, coarse folds; also very thick and stiff and with heavy veins and large, protruding midrib; broadly but shallow crenate at margins; decidedly undulate at borders. Color very light green, never spotted nor brownish in any part. Quality poor; hard and coarse in texture, and decidedly lacking in sweetness, delicacy, and flavor. Seeds large, whitish.

Comparison.—A popular variety of the United States, though not one of the ten most largely grown sorts. With Grand Rapids, Detroit Market Gardeners' Forcing, and Black-Seeded Simpson it forms the four varieties most largely grown under glass around Detroit. It is an excellent variety for summer, and in some outdoor trials at Washington it made the largest and most showy plants of any. In California it does not grow to a large size. A fine shipper and reliable. An excellent variety for market gardeners and highly recommended to them for trial as being possibly better than any other for certain soils and gardens. On account of its poor quality, not recommended for private gardeners. Very distinct, but perhaps more like Morse than any other lettuce.

Synonyms.—Tilton's White Star, Buckeye, Golden Beauty.

History.—Introduced by A. Tilton & Son in 1889.

Illustrations.—A longitudinal section of the variety is shown on Plate XXI. The general habit of the plant is illustrated by that of Black-Seeded Simpson, on Plate I.

WHITE SUMMER CABBAGE.

Listed by fifty-five seedsmen. Seeds tested: Bridgeman, 1900, 1901; Ferry, 1900, 1901; Henderson, 1900, 1901; Vaughan, 1901.

Comparison.—Same general character and usefulness as Hubbard's Market and almost identical with it. As received in Washington a little larger, more spreading in habit, and not quite so even in type nor as desirable as that variety. For description see Hubbard's Market.

Synonyms.—Large White Summer, White Cabbage.

History.—Known in this country for at least twenty-three years.

Illustrations.—Same as for Hubbard's Market.

YELLOW-SEEDED BUTTER.

Listed by thirty seedsmen. Seeds tested: Burpee, 1899-1901; Ferry, 1901, 1902; Henderson, 1901-1903.

Description.—A decidedly butter variety, strictly cabbage-heading, medium in size, late-intermediate in season, slow to shoot to seed. Plant compact and forming a

globular, firm, very well defined, well blanched head, with leaves very closely overlapping one another. Leaves broad, much blistered and crumpled, little twisted, fairly thick, entire at margins, flat or partly blistered at borders. Color light green, never spotted nor brownish in any part. Quality good; sweet, buttery in flavor, soft in texture. Seeds yellowish.

Comparison.—A popular variety of the United States, though not one of the ten most largely grown sorts. Useful in the same way as Tennis Ball Black-Seeded, but later in season and probably not as sure heading nor reliable. More like that variety in appearance than any other. Also similar to Hubbard's Market and White Summer Cabbage.

Synonyms.—Gray-Seeded Butter, Bloomsdale Early Summer, Champion, Champion Spring and Summer, Moore's Champion Spring and Summer, Denham's Mammoth Green, Solid Header.

History.—Introduced by Peter Henderson & Co., about twenty-two years ago.

Illustrations.—Same as for Tennis Ball Black-Seeded.

YELLOW WINTER.

Listed by one seedsman. Seeds tested: Thorburn, 1900-1902.

Description.—A decidedly butter variety, strictly cabbage-heading, medium in size, early-intermediate in season, fairly slow to shoot to seed. Plant compact and forming a globular, soft to somewhat firm, well defined, well blanched head. Leaves uniformly cup-shaped and upright, especially when young, and very closely overlapping one another, but meeting at the margins only, not folding past one another over the top of head, the whole growth peculiarly regular and formal. Leaves broad in shape, fairly blistered, crumpled, thick and stiff, never twisted, entire at margins, flat or slightly blistered at borders. Color medium green, slightly tinged light brown in places, apparently not spotted but occasional spots distinguishable on close examination; stem of plant and inner head leaves wholly green. Quality fair; medium buttery and sweet in flavor, fairly tender. Seeds whitish.

Comparison.—Scarce and little planted. Recommended for growing in frames, starting early and transplanting outdoors in spring, or for late fall sowing or wintering over outdoors. Not suited for summer. A strictly market gardener's sort. Usefulness and value same as Cold Frame White Cabbage and probably more like that variety in appearance than any other.

Synonyms.—Thorburn's Yellow Winter.

History.—Introduced in 1900 by J. M. Thorburn & Co., who state that it is of European origin.

Illustrations.—A mature plant of the variety is shown on Plate IX and a leaf on Plate XXIV. The solidity of the heads is illustrated by Matador on Plate XX.

CATALOGUE OF VARIETY NAMES.

The following list embraces nearly all varieties catalogued to-day by American seedsmen. Those which are omitted embrace kinds of which the tests were unsatisfactory or the seed not obtainable. Both distinct and subsidiary sorts are included in this list, the former embracing those preferred names mentioned in the preceding list of real varieties and the latter those so-called varieties which, upon trial, have been found to be strains, synonyms, or sorts practically identical with the true varieties already described. Following each variety is given the

number of seedsmen who mention that variety in their seed list for the year 1903. Where such data are omitted, the name has been regarded as equivalent to some other similar name, and the number of seedsmen who catalogue it has been counted with those of the preferred name. The seedsmen mentioned after these statements are those from whom seed was obtained, and upon whose samples the descriptions are largely based.

Advancer. (See p. 28.)

Alaska. (Listed by one seedsmen. Seeds tested: Bailey, 1901.)

Same as Golden Curled. Named and introduced as a new variety in 1895 by Sunset Seed Company.

All Cream. (Listed by eight seedsmen. Seeds tested: May, 1899-1903; Salzer, 1899, 1900, 1903.)

Prize Head, Hanson, New York, Buttercup, and Chartier were received in response to orders for this variety. Most of the samples from Salzer have been Prize Head and those from May have generally been Hanson. Named and introduced as a novelty in 1892 by John A. Salzer.

All Heart. (Listed by two seedsmen. Seeds tested: Dreer, 1900-1902.)

Same as Tennis Ball Black-Seeded. Named and introduced as a new variety in 1900 by Henry A. Dreer. The type is quite different from that of California All Heart.

All Right Spring and Autumn. (Listed by two seedsmen. Seeds tested: Michell, 1900-1903.)

Same as Mammoth Black-Seeded Butter. Named and introduced as a new variety in 1900 by Henry F. Michell under the name of Michell's All Right Spring and Summer, but changed in 1902 to Michell's All Right Spring and Autumn. The type is quite different from that of Myer's All Right.

All Right Spring and Summer. (Seeds tested: Michell, 1900-1901.)

See All Right Spring and Autumn.

All Seasons. (See p. 28.)

All the Year Round. (Listed by forty-five seedsmen. Seeds tested: Gregory, 1900; Henderson, 1899, 1900, 1902.)

The type universally sold in the United States under this name is Tennis Ball Black-Seeded, but in England another type is said to be in use. The variety is of foreign origin and has been listed by American seedsmen for at least twenty-eight years.

Always Ready. (Seeds tested: Landreth, 1899.)

Same as Defiance. Named and first listed in 1894 by D. Landreth Seed Company, but not catalogued after 1899. The name seems to have wholly gone out of use.

American Gathering. (See p. 29.)

Arlington Tennis Ball Black-Seeded. (Listed by one seedsmen. Seeds tested: Burwell, 1899.)

Same as Tennis Ball Black-Seeded. The word Arlington is attached to the common name because the variety is popular with gardeners at Arlington, Mass., but sometimes it is added to indicate also that the stock seed is grown at that place.

Arlington Tennis Ball White-Seeded. (Listed by four seedsmen. Seeds tested: Burwell, 1899; Johnson & Stokes, 1899.)

Same as Tennis Ball White-Seeded. The word Arlington is attached to the common name because the variety is popular with gardeners at Arlington, Mass., but sometimes it is added to indicate also that the stock seed is grown at that place.

Asiatic. (See p. 29.)

Asparagus. (See p. 30.)

Asparagus Lobed-Leaved. (See p. 30.)

Atlanta Market. (Listed by one seedsman. Seeds tested: McMillan, 1901-1903.)

As received here this variety has been very different every year, the samples of the various years being identified as Denver Market, Deacon, and New York. Named and first listed by McMillan Seed Company in 1900, but it seems that before this time it was listed as McMillan's Cabbage.

Australian White Triumph. (Listed by one seedsman. Seeds tested: Moore & Simon, 1901, 1903.)

Same as Deacon. Named and introduced in 1900 by Moore & Simon, who state the variety was received from a market gardener in Australia. The type is quite different from the Triumph catalogued by other seedsmen.

Balloon Cos. (Seeds tested: Bridgeman, 1899, 1900; Evans, 1901; R. H. Johnson, 1903.)

This variety, which is a well-known foreign sort, is not now catalogued by seedsmen of the United States. It was listed by W. Atlee Burpee & Co. in 1884. Very similar to, possibly identical with, Paris White Cos.

Baltimore Cabbage. (Listed by two seedsmen. Seeds tested: Griffith & Turner, 1899-1901.)

Same as Tennis Ball Black-Seeded. Named and introduced by Griffith & Turner in 1892. The name is well known in the vicinity of Baltimore, but is little heard of elsewhere.

Baltimore Oak-Leaved. (*See p. 31.*)

Batavian Brown Dutch. (Seeds tested: Ebeling, 1899, 1900.)

Same as Brown Dutch Black-Seeded.

Bath Cos. (*See p. 31.*)

Beckert's Brown Curled. (Seeds tested: Beckert, 1899, 1900, 1902, 1903.)

Described under Brown Curled.

Beckert's Golden Curled. (Seeds tested: Beckert, 1899, 1900, 1903.)

Described under Golden Curled.

Big Boston. (*See p. 32.*)

Big Head. (Listed by four seedsmen. Seeds tested: F. W. Bolgiano & Co., 1900, 1901; J. Bolgiano & Son, 1903; Griffith & Turner, 1899-1901; Salzer, 1900.)

Identical with Deacon as received from F. W. Bolgiano & Co. and J. Bolgiano & Son, Big Boston as received from Griffith & Turner, and Denver Market as received from John A. Salzer. The name was apparently first used by J. Bolgiano & Son and is well known in the vicinity of Baltimore and Washington, but little heard of elsewhere.

Black-Seeded Butter. (Listed by fourteen seedsmen. Seeds tested: Burpee, 1899-1901, 1903; Henderson, 1901.)

Same as Tennis Ball Black-Seeded. Listed by American seedsmen for at least twenty years. Sometimes described as larger than Tennis Ball Black-Seeded. The type is a different one from that of Mammoth Black-Seeded Butter.

Black-Seeded Simpson. (*See p. 33.*)

Black-Seeded Summer. (Listed by four seedsmen. Seeds tested: F. W. Bolgiano & Co., 1902; Griffith & Turner, 1899, 1900.)

Same as Tennis Ball Black-Seeded. Named and introduced in 1898 by Griffith & Turner. The name is well known in the vicinity of Baltimore and Washington, but is little heard of elsewhere. In the latter place it is about the only sort used for summer growing.

Blonde Beauty. (Listed by six seedsmen. Seeds tested: Vaughan, 1899-1901.)

Recognized everywhere as the same as Blonde Block Head. Introduced from France about 1890 by several American seedsmen. The type is quite different from Golden Beauty.

Blonde Block Head. (*See p. 34.*)

Bloomsdale Butter. (Listed by three seedsmen. Seeds tested: Landreth, 1899-1901.)

Same as Tennis Ball Black-Seeded. Named and introduced by D. Landreth Seed Company, who have listed the variety for at least twenty years.

Bloomsdale Early Summer. (Listed by two seedsmen. Seeds tested: Dallwig, 1901; Landreth, 1899-1901.)

Same as Yellow-Seeded Butter. Named and introduced as a new variety in 1860 by D. Landreth Seed Company, who state that it is the result of a hybridization between the French Perpignan and English Imperial. Said to be known as Creole in the vicinity of New Orleans. The type is quite different from that of Bloomsdale Butter and Bloomsdale Reliable.

Bloomsdale Reliable. (Listed by two seedsmen. Seeds tested: Landreth, 1899-1901.)

Same as Tennis Ball Black-Seeded. Named and introduced as a new variety in 1860 by D. Landreth Seed Company, who state that it is the result of a hybridization between the French Perpignan and English Imperial. The type is quite different from that of Bloomsdale Early Summer.

Bolgiano's Black-Seeded Summer. (Seeds tested: F. W. Bolgiano & Co., 1901, 1902.)

Described under Black-Seeded Summer.

Bolgiano's Big Head. (Seeds tested: F. W. Bolgiano & Co., 1900, 1901; J. Bolgiano & Son, 1903.)

Described under Big Head.

Bolgiano's Early Spring. (Seeds tested: F. W. Bolgiano & Co., 1899-1903.)

Described under Early Spring.

Bolgiano's Farmer's Pride. (Seeds tested: J. Bolgiano & Son, 1903.)

Described under Farmer's Pride. The name seems to be known only in the vicinity of Baltimore and Washington.

Bolgiano's Golden Heart. (Listed by one seedsmen. Seeds tested: J. Bolgiano & Son, 1903.)

Same as Deacon, and different from that usually sold as Golden Heart.

Bolgiano's White Forcing. (Seeds tested: F. W. Bolgiano & Co., 1899-1903.)

Described under White Forcing.

Bolgiano's White Loaf. (Seeds tested: F. W. Bolgiano & Co., 1899, 1900, 1902; J. Bolgiano & Son, 1903.)

Described under White Loaf.

Bonanza. (Listed by one seedsmen. Seeds tested: Schwill, 1899-1901.)

Same as New York. Named and introduced in 1900 by Otto Schwill & Co., as Schwill's Bonanza.

Bon Ton. (See p. 34.)

Boston Curled. (See p. 34.)

Boston Fine Curled. (Listed by four seedsmen. Seeds tested: Farquhar, 1899-1901.)

Same as Boston Curled.

Boston Forcing. (Listed by one seedsmen. Seeds tested: Vick, 1903.)

Same as Hothouse. The type is quite different from that of Big Boston, Boston Curled, and Boston Market.

Boston Forcing Tennis Ball White-Seeded. (Listed by one seedsmen. Seed tested: Farquhar, 1901-1903.)

Same as Hothouse. The type is quite different from that of Boston Market, Big Boston, and Boston Curled.

Boston Glasshouse. (Seeds tested: Noll, 1901.)

Same as Hothouse. It should not be confounded with Big Boston, Boston Market, and Boston Curled.

Boston Market. (Listed by ninety-three seedsmen. Seeds tested: Buckbee, 1901; Burpee, 1901; Henderson, 1901, 1902; Michell, 1899; Thorburn, 1899-1901.)

Accepted everywhere as the same as Tennis Ball White-Seeded. The name Boston Market has been used for twenty-five or more years because this lettuce is so largely planted by Boston market gardeners. The type is different from that of Big Boston, Large Boston Market, Boston Curled, Boston Glasshouse, Boston Hothouse, and Boston Forcing.

Briggs' Forcing and Garden. (*See p. 35.*)

Brittle Ice. (*See p. 35.*)

Bronzed Curled. (Listed by one seedsman. Seeds tested: Landreth, 1899-1902.)

Same as Chartier. Named and introduced as a new variety in 1893 by D. Landreth Seed Company. The type is quite different from that of Bronzed Head, Hartford Bronzed Head, Brown Head, Shotwell's Brown Head, Batavian Brown Head, and Bronzed Red.

Bronzed Head. (Listed by one seedsman. Seeds tested: Veitch, 1899.)

Same as Hartford Bronzed Head. The type is quite different from that of Brown Head, Shotwell's Brown Head, Batavian Brown Head, Bronzed Curled, and Brown Curled.

Bronzed Red. (Listed by one seedsman. Seeds tested: Eastman, 1899-1902.)

Same as Red Besson. Named and introduced by the above seedsman, who states that it is a chance seedling or sport. The type is quite different from that of Bronzed Curled, Brown Curled, Bronzed Head, Hartford Bronzed Head, and Shotwell's Brown Head.

Brown Chartier. (Listed by one seedsman. Seeds tested: Scott, 1899-1903.)

Same as Chartier. The word "Brown" is applied by the above seedsman to distinguish the variety from White Chartier.

Brown Curled. (Listed by two seedsman. Seeds tested: Beckert, 1899, 1900, 1902, 1903; Comstock, Ferre & Co., 1901, 1902.)

Same as Chartier. The type is quite different from that of Bronzed Head, Brown Head, and Shotwell's Brown Head.

Brown Dutch Black-Seeded. (*See p. 35.*)

Brown Dutch White-Seeded. (*See p. 36.*)

Brown Genoa. (*See p. 36.*)

Brown Head. (*See p. 36.*)

Buckbee's Earliest Forcing. (Listed by one seedsman. Seeds tested: Buckbee, 1899-1901.)

Same as Black-Seeded Simpson. Named and introduced in 1897 by H. W. Buckbee. The variety should not be confounded with Earliest Cutting, as sold by W. E. Dallwig.

Buckbee's Ice Drum Head. (Listed by one seedsman. Seeds tested: Buckbee, 1899-1901.)

Same as Prize Head. A decidedly bunching sort; not cabbage heading, as the name would seem to indicate.

Buckbee's Ideal. (Listed by one seedsman. Seeds tested: Buckbee, 1900.)

Same as Tennis Ball White-Seeded. Named and first listed by H. W. Buckbee, in 1900.

Buckbee's Superb. (Listed by one seedsman. Seeds tested: Buckbee, 1901.)

Same as Hothouse. Apparently named and first listed by above seedsman. The type is quite different from that of Hastings' Superba.

Buckbee's Surprise. (Seeds tested: Buckbee, 1903.)

Described under Surprise.

Buckeye. (Listed by one seedsman. Seeds tested: Tilton, 1901.)

Same as White Star. Named and first listed in 1901 by A. Tilton & Son.

Burpee's Butter Head. (*See p. 37.*)

Burpee's Hard Head. (Seeds tested: Burpee, 1899-1903.)

Described under Hard Head.

Burpee's Prize Head. (Seeds tested: Farquhar, 1900, 1901.)

Described under Prize Head.

Burpee's Silver Ball. (Seeds tested: Burpee, 1899-1902.)

Described under Silver Ball.

Burpee's Tomhannock. (Seeds tested: Burpee, 1899-1901, 1903.)

Described under Tomhannock.

Buttercup. (*See p. 37.*)

California All Head. (Listed by one seedsman. Seeds tested: R. H. Johnson, 1901.)

Same as Mammoth Black-Seeded Butter. The type is quite different from that of California All Heart.

California All Heart. (See p. 38.)

California Cabbage. (Listed by one seedsman. Seeds tested: Shumway, 1900, 1901.)

Same as California Cream Butter in 1900 and Deacon in 1901. Named and first listed by above seedsman.

California Cream Butter. (See p. 38.)

California Giant White Forcing. (Listed by one seedsman. Seeds tested: Moore & Simon, 1900, 1903.)

Same as Big Boston. Named and introduced as a new variety in 1892 by Moore & Simon, under name of Large White Forcing, but changed by them in 1895 to California Giant White Forcing. The type is quite different from that of White Forcing and Perfection White Forcing.

Celery Cos. (Listed by fourteen seedsman. Seeds tested: Livingston, 1899, 1900.) Same as Paris White Cos.

Champion. (Listed by one seedsman. Seeds tested: Burwell, 1899—1901.) Same as Yellow-Seeded Butter.

Champion Spring and Summer. (Listed by three seedsman. Seeds tested: Johnson & Stokes, 1899—1902; Moore & Simon, 1900, 1901.)

Same as Yellow-Seeded Butter. Named and introduced as a new variety in 1891 by Johnson & Stokes. The type is quite different from that of All Right Spring and Autumn.

Chartier. (See p. 39.)

Chesterfield. (Seeds tested: Wood, 1901.)

Same as Big Boston. Named and introduced as a new variety in 1901 by T. W. Wood & Son, but not listed by them or any other seed house after that year.

Chicago Forcing. (See p. 39.)

Childs' Half Century. (Seeds tested: Childs, 1899—1903.)

Described under Half Century, on page 52.

Cincinnati Market. (Listed by three seedsman. Seeds tested: J. C. McCullough, 1902, 1903.)

Same as Denver Market.

Cincinnati Market Gardener's Brown Curled. (Listed by one seedsman. Seeds tested: Weber, 1903.)

Same as Prize Head. The type is quite different from that of Brown Curled or Bronzed Curled.

Cold Frame White Cabbage. (See p. 40.)

Constitution. (Listed by one seedsman. Seeds tested: Great Northern Seed Company, 1901, 1903.)

Same as Black-Seeded Simpson. Named and introduced as a new variety in 1901 by the above seedsman.

Continuity. (Listed by five seedsman. Seeds tested: Burpee, 1901—1903; Thorneburn, 1903.)

Same as Red Besson. Introduced from England as a new variety by W. Atlee Burpee & Co. in 1901.

Copper Head. (Listed by one seedsman. Seeds tested: Johnson & Stokes, 1902, 1903.)

Same as Eureka. Named and introduced as a new variety in 1902 by above seedsman.

Cream Butter. (Listed by four seedsman. Seeds tested: Childs, 1899—1901.)

Same as California Cream Butter.

Crisp as Ice. (Listed by six seedsmen. Seeds tested: Burpee, 1901; Livingston, 1900—1902; Maule, 1899—1901.)

Same as Hartford Bronzed Head. Named and introduced as a new variety in 1894 by Livingston Seed Company.

Crisp and Tender. (Listed by one seedsmen. Seeds tested, Buckbee; 1901.)
Same as White-Seeded Simpson. Named and first listed by above seedsmen.

Crosman's Golden King. (Seeds tested: Crosman, 1899, 1900.)
Described under Golden King.

Crosman's Improved. (Listed by one seedsmen. Seeds tested: Crosman, 1900, 1901.)

Same as Tennis Ball Black-Seeded. Named and first listed by above seedsmen.

Crumpled-Leaved. (*See p. 40.*)

Curled India. (Listed by nine seedsmen. Seeds tested: Landreth, 1899, 1900, 1901.)

Same as Iceberg. A very old name known to American seedsmen for at least forty years, but now nearly gone out of use. It is also sold as India, Large Curled India, and Large India. The name is best known in New England.

Cut and Come Again. (Listed by one seedsmen. Seeds tested: Moore & Simon, 1900—1903.)

Same as Black-Seeded Simpson. Named and introduced as a new variety in 1895 by above seedsmen.

Dammann's Ice. (*See p. 41.*)

Daybreak. (Listed by one seedsmen. Seeds tested: Buckbee, 1903.)

Same as Black-Seeded Simpson. Named and first listed in 1903 by H. W. Buckbee.

Dayton Market. (Listed by one seedsmen. Seeds tested: Ritter, 1899.)

Same as Denver Market. Apparently first named by above seedsmen, who states it is very popular with the market gardeners of Dayton, Ohio, and that it has been grown in the vicinity of that city for more than thirty-five years.

Deacon. (*See p. 41.*)

Defiance. (*See p. 41.*)

Delicate. (Listed by one seedsmen. Seeds tested: Page, 1901.)

Same as Mignonette. Named and first listed in 1901 by Page Seed Company.

Denham's Mammoth Green. (Listed by one seedsmen. Seeds tested: Harvey 1899, 1901, 1902.)

Same as Yellow-Seeded Butter. The name was apparently first used by above seedsmen.

Density. (*See p. 42.*)

Denver Market. (*See p. 43.*)

Detroit Market Gardener's Forcing. (*See p. 43.*)

Dickmann's Early White Butter. (Seeds tested: Dickmann, 1899.)
Described under Early White Butter.

Dickmann's Private Stock. (Seeds tested: Dickmann, 1899, 1900.)
Same as Tennis Ball Black-Seeded.

Dickmann's St. Louis Market. (Seeds tested: Dickmann, 1899, 1901.)

Same as Hubbard's Market. The type is quite different from that of St. Louis Butter and St. Louis Black-Seeded Forcing.

Dreer's Hanson. (Seeds tested: Dreer, 1900, 1901.)
Described under Hanson.

Drum Head. (Listed by twenty-four seedsmen. Seeds tested: Comstock, Ferre & Co., 1901; Farquhar, 1901; Steckler, 1901.)

Same as Malta. The words Drum Head, either alone or in connection with other words, have been used in this country for at least thirty-eight years to form names of a great number of different types of lettuce. Therefore, when this name is used it is uncertain which type is referred to. Drum Head seems to have been first applied to the Malta lettuce and is to-day probably most correctly applied to that type. Malta, Deacon, California Cream Butter, and Hubbard's Market seem to be the types most sold under the name of Drum Head.

Dwarf White Heart Cos. (*See p. 44.*)

Earliest Cutting. (*See p. 44.*)

Earliest of All. (Seeds tested: Sioux Falls Seed Company, 1899, 1900.)

Same as Black-Seeded Simpson. Named and first listed by above seedsmen. The type is quite different from that of Earliest Cutting.

Early Butter. (Listed by two seedsmen. Seeds tested: Gregory, 1899-1901; Weeber and Don, 1900, 1901.)

Same as Philadelphia Butter as received from the former and Tennis Ball Black-Seeded from the latter seedsmen. A very uncertain name and likely to be taken for either of the above types or for Hubbard's Market.

Early Cabbage. (Listed by nine seedsmen. Seeds tested: McMillan, 1900, 1901.)

Same as Hubbard's Market. The use of this ambiguous name is discouraged. It is often taken to refer to a number of similar named types of wholly different character.

Early Challenge. (Listed by one seedsmen. Seeds tested: May, 1899, 1900.)

Same as Hubbard's Market. Named and first listed about seven years ago by the above seedsmen.

Early Curled Silesia. (*See p. 44.*)

Early Curled Simpson. (*See p. 45.*)

Early Drum Head. (Seeds tested: Schisler-Corneli, 1903.)

Same as Hubbard's Market. See Drum Head.

Early Dutch Butter. (Seeds tested: Buist, 1899, 1900.)

Same as Speckled Dutch Butter.

Early Market. (Listed by three seedsmen. Seeds tested: Eichling, 1900, 1901; May, 1899, 1900, 1903; Schindler, 1903.)

Same as Hubbard's Market.

Early Ohio. (Listed by four seedsmen. Seeds tested: Bruce, 1899, 1900; Robert Evans, 1901; Lee, 1903.)

Same as Denver Market. The Robert Evans Seed Company claims to have first introduced this variety. It was listed in this country as a new variety about sixteen years ago.

Early Prize Head. (Seeds tested: Buckbee, 1901; Burpee, 1900-1903; Ferry, 1900, 1901; Henderson, 1901.)

Same as Prize Head.

Early Silver Ball. (Seeds tested: Johnson & Stokes, 1901.)

Same as Silver Ball.

Early Spring. (Listed by two seedsmen. Seeds tested: F. W. Bolgiano, 1899-1903.)

Same as California Cream Butter. The name was probably first used by above seedsmen or by J. Bolgiano & Son, and seems to be known only in the vicinity of Washington and Baltimore.

Early Tennis Ball Black-Seeded. (Seeds tested: Ferry, 1900, 1901.)

Same as Tennis Ball Black-Seeded.

Early White Butter. (Listed by four seedsmen. Seeds tested: Buist, 1899; Dusard, 1899; Michell, 1899.)

Same as Hubbard's Market.

Early White Cabbage. (Listed by fourteen seedsmen. Seeds tested: Dreer, 1901; Michell, 1899; Moore & Simon, 1900; Steckler, 1901.)

Same as Hubbard's Market as received from Henry F. Michell and Reichner as received from the other seedsmen mentioned above.

Early White Self-Folding Cos. (Seeds tested: Ferry, 1899, 1901.)

Same as Paris White Cos.

Eclipse. (Listed by one seedsmen. Seeds tested: Great Northern, 1903.)

Same as Tennis Ball Black-Seeded. Named and introduced as a new variety in 1902 by Great Northern Seed Company.

Eichling's Early Market. (Seeds tested: Eichling, 1900, 1901.)

Described under Early Market.

Elliott's Leviathan. (Seeds tested: Elliott, 1901.) Described under Leviathan.

Emerald. (Listed by one seedsman. Seeds tested: Great Northern, 1900.)

Same as Prize Head. Named and introduced as a new variety in 1900 by Great Northern Seed Company.

Emperor Forcing. (See p. 45.)

Emperor William. (See p. 46.)

Engel's Forcing. (Listed by one seedsman.)

Same as Detroit Market Gardener's Forcing. A local name used by Lohrman Seed Company, of Detroit, Mich.

Erfurt Large Thick Head Yellow. (Seeds tested: Dallwig, 1899, 1900.)

Same as Thick Head Yellow.

Eureka. (See p. 46.)

Evans' Hamilton Market. (Seeds tested: Robert Evans, 1901.)

Same as Hanson. Described under Hamilton Market.

Everlasting. (Listed by one seedsman. Seeds tested: Everitt, 1899, 1900, 1903.)

Same as Tennis Ball Black-Seeded. Listed by above seedsman for at least eight years, but apparently never listed by other seed houses.

Excelsior. (Listed by one seedsman. Seeds tested: Ewing, 1900, 1903.)

Same as Hanson. Apparently first named and listed by above seedsman. The type is quite different from that of Kendel's Excelsior Head.

Express Cos. (See p. 46.)

Farmer Seed Co.'s New Ice. (Listed by one seedsman. Seeds tested: Farmer Seed Company, 1903.)

Same as New York. Named and introduced as a new variety in 1903 by Farmer Seed Company.

Farmer's Pride. (Listed by two seedsman. Seeds tested: J. Bolgiano & Son, 1903.)

Same as White Chavigne.

Farquhar's Long-Standing. (Listed by one seedsman. Seeds tested: Farquhar, 1899-1901.)

Same as Tennis Ball Black-Seeded. Named by above seedsman, but other similar names, like Long-Standing Cabbage, listed by W. Atlee Burpee in 1886, Long-Standing-Bronze Head, listed by Johnson & Stokes in 1893, and Long-Standing White Cos, listed by Germain Seed Company in 1896, have formerly been in use, though all seem to be very different from this type.

Faust's Queen. (Seeds tested: Faust, 1899, 1900.)

Described under Queen.

Favorite. (Seeds tested: Schisler-Corneli, 1901.)

Same as St. Louis Black-Seeded Forcing. Named and introduced in 1900 by above seedsman, but not now listed by them or any other seed house. The type is quite different from that of Rudolph's Favorite, Sutton's Favorite, Gardener's Favorite, and Florida Favorite.

Ferry's Early Prize Head. (Seeds tested: Ferry, 1900, 1901.)

Same as Prize Head.

First Crop. (Listed by one seedsman. Seeds tested: Weaver, 1903.)

Same as Matador. Named and introduced as a new variety in 1903 by the above seedsman. The type is quite different from that of First Early.

First Early. (Listed by one seedsman. Seeds tested: Great Northern Seed Company, 1900, 1901.)

Same as Black-Seeded Simpson. Named and first listed by Great Northern Seed Company. The type is quite different from that of First Crop.

Florida Header. (Listed by one seedsman. Seeds tested: Crosman, 1900, 1901; Hastings, 1901.)

Same as Reichner.

Forty Day. (Listed by one seedsman. Seeds tested: Maule, 1902, 1903.)

Same as Nansen. Named and introduced as a new variety in 1902 by William Henry Maule.

Frankfort Head Black-Seeded. (Listed by six seedsman. Seeds tested: Brinker, 1899, 1901; Kendel, 1901.)

Same as Tennis Ball Black-Seeded. A very old name, known in this country for at least thirty-seven years.

Frankfort Head White-Seeded. (Listed by one seedsman. Seeds tested: Brinker, 1899.)

Same as Tennis Ball White-Seeded. A very old name, known in this country for at least thirty-seven years.

French Market. (Listed by one seedsman. Seeds tested: Steckler, 1900, 1901, 1903.)

Same as Hubbard's Market. Named and introduced as a new variety in 1899 by J. Steckler Seed Company and described by them as a great improvement on Hubbard or Large Green Royal.

Frotscher's New Orleans Large Passion. (Seeds tested: Steckler, 1899, 1901.) Described under New Orleans Large Passion.

Gardener's Favorite. (Listed by two seedsman. Seeds tested: Bruce, 1901; Simmers, 1899-1901.)

Same as Hanson. Apparently named and first listed by John A. Bruce & Co. The type is quite different from that of Florida Favorite, Sutton's Favorite, and Rudolph's Favorite.

Gardener's Friend. (Listed by one seedsman. Seeds tested: Darch & Hunter, 1903.)

Same as Hanson. Named and first listed in 1903 by Darch & Hunter.

German Butter. (Listed by one seedsman. Seeds tested: Salzer, 1899-1901, 1903.)

Same as California Cream Butter. Named and first listed in 1895 by John A. Salzer.

German Early Head. (See p 47.)

German Incomparable. (See p. 48.)

Giant Crystal Head. (Listed by twelve seedsman. Seeds tested: Michell, 1901; Thorburn, 1901, 1903.)

Introduced into this country from Germany by American seedsman in 1901. It is described as a cross between Hanson and Salamander and was sent out by Chris. Lorenz, of Germany, as a new lettuce, but in Department trials indistinguishable from Iceberg even when grown by the side of it.

Giant Glacier. (See p. 48.)

Giant Golden Heart. (Listed by three seedsman. Seeds tested: Breck, 1903.)

The samples tested were indistinguishable from Iceberg or Giant Crystal Head, though the variety is described by Beckert and Weaver as dark green in color. The above seedsman, who first listed it in this country in 1903, describes it as a sport from Giant Crystal Head and to closely resemble it.

Giant White Cos. (See p. 48.)

Giant White Forcing. (Listed by one seedsman. Seeds tested: Tait, 1903.)

Same as Big Boston. Said by above seedsman to be an improvement on Big Boston. The type is quite different from that of White Forcing, Bolgiano's White Forcing, and Perfection White Forcing.

Glasshouse. (Listed by three seedsman. Seeds tested: Thorburn, 1900-1903.)

Same as Hothouse. Named and first listed by above seedsman as Thorburn's Glasshouse.

Godden's White-Seeded Forcing. (Listed by one seedsman. Seeds tested: Godden, 1901, 1902.)

Same as Tennis Ball White-Seeded. The name is evidently used only by above seedsman. The type is quite different from that of White Forcing, Perfection White Forcing, Giant White Forcing, and California Giant White Forcing.

Golden Ball. (Listed by seven seedsmen. Seeds tested: Northrup, King & Co., 1900, 1901; Ritter, 1899; Hopkins, 1901; Nebraska, 1901; Springfield, 1901.)

Same as Buttercup as received from first two and Hubbard's Market from last three seedsmen above. Listed as a novelty by American seedsmen about twenty-five years ago and described as of Russian origin. The original and correct type seems to be Buttercup, which is quite different from that of Golden Heart, Golden Head, Golden Forcing, Golden Beauty, Golden King, and Golden Gate.

Golden Curled. (See p. 49.)

Golden Beauty. (Listed by one seedsmen. Seeds tested: Tilton, 1899-1901, 1903.)

Same as White Star. Named and introduced in 1892 by A. Tilton & Son. It is claimed by them to be an improvement on White Star in being of larger growth. The type is quite different from that of Blonde Beauty.

Golden Buttercup. (Seeds tested: Schisler-Corneli, 1899.)

Same as Buttercup.

Golden Forcing. (Seeds tested: Landreth, 1899.)

Same as Denver Market. Named and first listed by D. Landreth Seed Company in 1899, but never afterwards, and the name seems now to have wholly gone out of use. The type is quite different from that of Golden Head, Golden Ball, Golden Nugget, Golden Stone Head, Golden Heart, Golden Sunset, Golden King, and Golden Gate.

Golden Gate. (Listed by eight seedsmen. Seeds tested: Johnson & Stokes, 1900, 1901.)

Same as Deacon. Named and introduced as a new variety in 1900 by above seedsmen.

Golden Head. (Listed by one seedsmen. Seeds tested: Templin, 1899-1901.)

No one type seems to be recognized for this variety. The samples received were the same as Prize Head in 1899, Golden Queen in 1900, Philadelphia Butter in 1901. Described by above seedsmen as cabbage heading. Formerly listed by Livingston Seed Company as Livingston's Golden Head. The variety should not be confounded with Golden Forcing, Golden Curled, Golden Heart, Golden Ball, Golden Buttercup, Gold Nugget, Golden Queen, Golden Beauty, nor Golden Gate.

Golden Heart. (See p. 49.)

Golden King. (Listed by one seedsmen. Seeds tested: Crosman, 1899, 1900.)

Same as Buttercup in 1899 and Reichner in 1900. Named and first listed by above seed house.

Golden Queen. (See p. 49.)

Golden Spotted. (See p. 50.)

Gold Nugget. (Listed by six seedsmen. Seeds tested: Burpee, 1899, 1900, 1902; Stumpp & Walter, 1903.)

Same as Hubbard's Market. First listed by W. Atlee Burpee & Co. in 1899. The type is quite different from that of Golden Ball, Golden Buttercup, Golden Head, Golden Curled, Golden Heart, and Golden Stone Head.

Grand Rapids. (See p. 50.)

Gray-Seeded Butter. (Listed by three seedsmen. Seeds tested: Thorburn, 1899-1901.)

Same as Yellow-Seeded Butter.

Green Cos. (See p. 51.)

Green-Fringed. (See p. 51.)

Griffith & Turner's Black-Seeded Summer. (Seeds tested: 1899, 1900.)

Described under Black-Seeded Summer.

Griffith & Turner's White-Seeded Summer. (Seeds tested: Griffith & Turner, 1899, 1900, 1902.)

Described under White-Seeded Summer.

Half Century. (See p. 52.)

Hamilton Market. (Listed by two seedsmen. Seeds tested: Bruce, 1899-1901; Robert Evans, 1901.)

Same as Hanson. Said to have been named and first listed by Robert Evans Seed Company, but catalogued also by American seedsmen for at least twenty years.

Hammond's Earliest Forcing. (Listed by one seedsman. Seeds tested: Hammond, 1901.)

Same as Morse. Named and first listed by Harry N. Hammond Seed Company. The type is quite different from that of Earliest Cutting as sent out by W. E. Dallwig.

Hanson. (*See p. 52.*)

Harbinger. (*See p. 53.*)

Hard Head. (Listed by eight seedsman. Seeds tested: Burpee, 1899, 1903; Childs, 1900.)

Same as Brown Head. Named and introduced as a new variety in 1887 by W. Atlee Burpee & Co. under the name of Burpee's Hard Head and said by them to have originated with a German seed grower. The name is very misleading, as the variety is anything but a hard head.

Hardy Green Hammersmith. (*See p. 53.*)

Hardy Green Winter. (Listed by eight seedsman. Seeds tested: Bridgeman, 1901; Plant, 1900; Thorburn, 1903; Vick, 1899-1903.)

Same as Hardy Green Hammersmith. One of the oldest of all lettuce names. Known in this country for at least fifty-seven years.

Hartford Bronzed Head. (*See p. 54.*)

Hastings' Drum Head. (Listed by one seedsman. Seeds tested: Hastings, 1901.)

Same as New York. The name is very misleading, as Drum Head is more generally applied to Malta and several other types described under Drum Head.

Hastings' Superba. (Listed by one seedsman. Seeds tested: Hastings, 1903.)

Same as Maximum. Named and first listed by above seedsman in 1903. The type is quite different from that of Buckbee's Superb.

Heat-Resisting Cos. (Listed by five seedsman. Seeds tested: Landreth, 1899.)

Same as Paris White Cos. Listed for at least twenty-five years by above seed house as Landreth's Heat-Resisting Cos.

Heavy Weight. (Listed by one seedsman. Seeds tested: Salzer, 1899-1901, 1903.)

Same as Big Boston as received the first two and New York the last two years. Named and introduced as a new variety in 1895 by above seedsman under the name of Salzer's Heavy Weight.

Henderson's New York. (Seeds tested: Farquhar, 1901; Henderson, 1900, 1901.) Described under New York.

Hero. (*See p. 54.*)

Hittinger's Belmont. (Listed by seventeen seedsman. Seeds tested: Burpee, 1900, 1902; Farquhar, 1900, 1901.)

Same as Hothouse. Named and introduced as a new variety in 1891 by Schlegel & Fottler, who state that it originated with Hittinger Brothers, of Belmont, Mass. The name is best known in the East.

Hornberger's Dutch Butter. (Listed by two seedsman. Seeds tested: Johnson & Stokes, 1899-1902.)

Same as Speckled Dutch Butter. Named and introduced in 1896 by Johnson & Stokes as an improvement on Speckled Dutch Butter.

Hothouse. (*See p. 55.*)

Houston Market. (Listed by one seedsman. Seeds tested: Reichardt & Schulte, 1903; Thompson, 1902.)

Same as Big Boston. Apparently named and first listed by J. H. Thompson Seed and Rice Milling Company, the predecessors of Reichardt & Schulte.

Hubbard's Forcing. (Seeds tested: Harvey, 1899.)

Same as Hubbard's Market.

Hubbard's Market. (*See p. 55.*)

Iceberg. (*See p. 56.*)

Ice Drum Head. (Listed by seven seedsman. Seeds tested: Bridgeman, 1901, 1903; Vincent, 1901.)

Same as Malta. The type is quite different from that of Buckbee's Ice Drum Head as sent out by H. W. Buckbee.

Ice Head. (Listed by one seedsman. Seeds tested: Godden, 1901.)

Same as Reichner. Apparently named and first listed by above seedsman.

Immensity. (Listed by ten seedsman. Seeds tested: Henderson, 1901-1903.)

Same as Maximum. Named and first listed by Peter Henderson & Co.

Imperial. (Listed by five seedsman. Seeds tested: Landreth, 1899-1903; Tait, 1901, 1903; Vick, 1899-1903; Wood, Stubbs & Co., 1903.)

A very old name which has been recognized in this country for at least one hundred years. A number of different types seem to be sold under this name. The samples mentioned above were identified as California Cream Butter, Deacon, Hubbard's Market, Malta, Mammoth Black-Seeded Butter, Middletowner, and Reichner. Probably Deacon and Hubbard's Market are at present the ones most used for Imperial. The name is not often used, and the misunderstanding arising from its use is therefore not very common.

Italian Ice. (*See p. 56.*)

Johnson & Stokes' Hothouse. (Seeds tested: Johnson & Stokes, 1900.)

Described under Hothouse.

Johnson & Stokes' Summerlead. (Seeds tested: Johnson & Stokes, 1901.)

Described under Summerlead.

Kaiser Wilhelm. (Listed by one seedsman. Seeds tested: Salzer, 1899, 1901, 1903.)

No one type seems to be recognized for this variety. The above samples were identified as Deacon, Denver Market, and Early Curled Simpson. Named and first listed by John A. Salzer in 1899.

Kansas City White-Seeded Forcing. (Listed by two seedsman. Seeds tested: Plant Seed Co., 1899-1901.)

Same as Denver Market. Apparently named and first listed in 1899 by above seedsman, though it is said to have been used by gardeners of Kansas City since 1865.

Kendel's Excelsior Head. (Listed by one seedsman. Seeds tested: Kendel, 1900, 1901.)

Same as White Chavigne. Named and first listed in 1898 by A. C. Kendel. The type is quite different from that of Excelsior as sold by other seedsman.

Laciniated Beauregard. (*See p. 56.*)

La Crosse Market. (Listed by one seedsman. Seeds tested: Salzer, 1903.)

Same as Early Curled Simpson. Named and introduced as a new variety in 1902 by above seedsman.

Lancaster. (*See p. 57.*)

Landreth Forcing. (Listed by two seedsman. Seeds tested: Landreth, 1899-1902.)

Same as Tom Thumb. Named and first listed in 1896 by above seed house.

Landreth's Heat-Resisting Cos. (Seeds tested: Landreth, 1899.)

Described under Heat-Resisting Cos.

Landreth's Unsurpassed. (Seeds tested: Landreth, 1902.)

Described under Unsurpassed.

Lapp's Head. (Seeds tested: Barnard, 1899.)

Same as Tennis Ball Black-Seeded. The name was formerly used by above seedsman, but apparently has now wholly gone out of use.

Large Boston Market. (Listed by one seedsman. Seeds tested: Thorburn, 1899-1901.)

It seems this name was originally intended to separate the old Boston Market from the new variety developed from it about thirteen years ago and sold as Hothouse and Hittinger's Belmont, but that its use has often been misunderstood and the old Boston Market, as well as Big Boston, has sometimes been sold under its name. The above seedsman's samples appeared to be Boston Market.

Large Butter Head. (Listed by two seedsman. Seeds tested: Bridgeman, 1900.)

Same as Tennis Ball Black-Seeded.

Large Drum Head. (Seeds tested: Ferry, 1899; Lamberson, 1901.)

Same as Deacon from former and Hubbard's Market from latter seedsman. *See* Drum Head.

Large India. (Seeds tested: Cadwell & Jones, 1899; Comstock, Ferre & Co., 1901; Weeber & Don, 1901.)
Same as Iceberg.

Large Loaf. (Seeds tested: Griffith & Turner, 1901.)
Same as White Loaf. The type is quite different from that of Sugar Loaf.

Large Passion. (Seeds tested: Bowen, 1903; Buist, 1899-1900; Texas Seed Company, 1903.)
The samples from the first two seedsmen above were the duller-leaved strain of Passion, and those from the latter seed house the glossy-leaved strain.

Largest of All. (Listed by two seedsmen. Seeds tested: Johnson & Stokes, 1900; Landreth, 1899-1901; Weber, 1903.)
Same as Deacon. Named and introduced as a new variety in 1868 by D. Landreth Seed Company, and said by them to be a trial-bed hybridization accidentally accomplished between Malta and Mogul.

Large White Loaf. (Seeds tested: F. W. Bolgiano & Co., 1901-1903; Griffith & Turner, 1901; Manns, 1901.)
Same as White Loaf. The type is quite different from that of Sugar Loaf.

Large White Summer. (Seeds tested: Henderson, 1899, 1901, 1903; Thorburn, 1899, 1901, 1903.)
Same as White Summer Cabbage.

Large Yellow Market. (See p. 57.)

Lee's Market Forcing. (See p. 58.)

Leviathan. (Listed by one seedsman. Seeds tested: Elliott, 1901.)
Same as Maximum. Named and first listed by Elliott in 1901.

Limagne Cos. (See p. 58.)

Livingston's Bon Ton. (Listed by one seedsman. Seeds tested: Livingston, 1901-1903.)
Described under Bon Ton.

Loaf. (Seeds tested: Griffith & Turner, 1899.)
Described under White Loaf.

Long Island Winter. (Listed by one seedsman. Seeds tested: Landreth, 1899-1901.)
Same as Tennis Ball Black-Seeded. Named and first listed in 1898 by D. Landreth Seed Company.

Long-Standing. (Listed by one seedsman. Seeds tested: Farquhar, 1899-1901.)
Described under Farquhar's Long-Standing.

Longstreth's Earliest. (Listed by one seedsman. Seeds tested: Longstreth, 1899-1901.)
Same as Black-Seeded Simpson. Named and first listed by the above seedsman. The type is quite different from that of Earliest Cutting as sold by W. E. Dallwig.

Los Angeles Market. (Listed by one seedsman. Seeds tested: Johnson & Musser, 1901.)
Same as Hanson. Named and first listed by above seedsmen.

Luxury. (Listed by one seedsman. Seeds tested: Missouri Valley Seed Company, 1903.)
Same as Hartford Bronzed Head, though above seed house's description states that it is medium green in color, and with a large, loose, crisp, curly head. Named and introduced as a new variety in 1903 by Missouri Valley Seed Company.

Magnum Bonum. (Listed by two seedsmen. Seeds tested: Moore & Simon, 1900, 1901, 1903.)
Named and introduced as a new variety in 1895 by Moore & Simon under the name of Moore's Magnum Bonum. The samples received were the same as Tennis Ball Black-Seeded, but the above seedsmen describe it as similar to or possibly identical with Mammoth Black-Seeded Butter, while in England a similar lettuce of a very different character is known under name of Magnum Bonum Cos, and seems also to have been known in this country about seventy-six years ago.

Malta. (See p. 58.)

Mammoth. (*See* Price & Knickerbocker's Mammoth Head and Shumway's Mammoth.)

Mammoth Black-Seeded Butter. (*See* p. 59.)

Mammoth Erfurt Yellow. (Listed by one seedsman. Seeds tested: Dallwig, 1902-1903.)

Same as Thick Head Yellow. Listed by W. E. Dallwig in 1893 as Erfurt Large Yellow Thick Head, under which name it is said to have been known in Germany. Changed by above firm in 1900 to its present name.

Mammoth Large Yellow Butter. (Seeds tested: Thorburn, 1899-1901.)

Same as Mammoth Black-Seeded Butter. Named and introduced by J. M. Thorburn & Co., about fourteen years ago, but changed by them in 1904 to Mammoth Black-Seeded Butter.

Mammoth Salamander. (Seeds tested: Johnson & Stokes, 1899-1901.)

Same as Mammoth Black-Seeded Butter. Named and introduced by above seeds-men as a new variety in 1898.

Marblehead Mammoth. (*See* p. 59.)

Market Gardener's Salamander. (Seeds tested: Burwell, 1899.)

Same as Tennis Ball Black-Seeded. Named and first listed by E. E. Burwell in 1897.

Market Gardener's Forcing. (Listed by one seedsman. Seeds tested: Alneer, 1901.)

Same as Morse. The type is quite different from that of Market Gardener's Private Stock and Detroit Market Gardener's Forcing.

Market Gardener's Private Stock. (Listed by eighteen seeds-men. Seeds tested: Burpee, 1901; Ferry, 1900-1901; Landreth, 1899-1901; Thorburn, 1899-1903; Weeber & Don, 1902.)

Same as Tennis Ball Black-Seeded. Named and first listed about twelve years ago by J. M. Thorburn & Co. under the name of Thorburn's Market Gardener's Private Stock. The name is well known, especially in the vicinity of New York.

Mastodon. (Listed by one seedsman. Seeds tested: Archias, 1903.)

Same as Hanson. Named and introduced as a new variety in 1902 by L. E. Archias Seed Company.

Matador. (*See* p. 59.)

Matchless. (Listed by one seedsman. Seeds tested: Michell, 1903.)

Same as Maximum. First listed and named in 1903 by Henry F. Michell as Michell's Matchless.

Maule's Hanson. (Seeds tested: Maule, 1901.)

Same as Hanson.

Maule's Philadelphia Butter. (Listed by one seedsman. Seeds tested: Maule, 1900-1902.)

Same as California Cream Butter. Listed by above seedsman for at least fifteen years. The name is very misleading, because Philadelphia Butter as usually sold by seeds-men refers to a lettuce quite different from this type. It should not be confounded with Philadelphia Speckled Dutch Butter, which is still another type.

Maule's Rosette. (Seeds tested: Maule, 1901-1903.)

Same as White Chavigne. Named and introduced as a new variety in 1902 by William Henry Maule.

Maule's Silver Anniversary. (Seeds tested: Maule, 1903.)

Described under Silver Anniversary.

Maximum. (*See* p. 60.)

Memphis. (Seeds tested: Ullathorne Seed Company, 1899.)

Same as Hubbard's Market. Apparently never listed except by above seed house.

Mette's Forcing. (*See* p. 61.)

Michell's All Right Spring and Summer. (Seeds tested: Michell, 1900-1902.)

Described under All Right Spring and Autumn.

Michell's Early Speckled Dutch Butter. (Seeds tested: Michell, 1899-1900.)

Described under Speckled Dutch Butter.

Michell's Very Best. (Seeds tested: Michell, 1899-1901.)

Same as Buttercup. Named and first listed in 1899 by Henry F. Michell, but not catalogued by him or any other seed house after 1901.

Middletowner. (See p. 61.)

Midsummer. (Listed by one seedsman. Seeds tested: Tait, 1901-1903.)

Same as Maximum. As Tait's Midsummer this variety was apparently named and first listed by the above seedsman, but from 1889 to 1891 W. Atlee Burpee & Co. listed a German variety under the name of Midsummer or Genezzano, which was a lettuce identical or similar to Brown Head and very different from this one.

Mignonette. (See p. 62.)

Mills' Earliest. (Listed by one seedsman. Seeds tested: Mills, 1899-1902.)

Same as Grand Rapids. Named and first listed in 1897 by above seedsman.

Milly. (See p. 62.)

Miniature. (Listed by two seedsman. Seeds tested: Thorburn, 1903.)

Same as Density. First listed in 1903 by both W. Atlee Burpee & Co. and J. M. Thorburn & Co. Said to have originated some three or four years before with Chris. Lorenz, of Erfurt, Germany.

Mongolian. (Listed by one seedsman. Seeds tested: Johnson & Stokes, 1901-1903.)

Same as Reichner. Named and introduced as a new variety in 1902 by Johnson & Stokes.

Montreal Market. (Seeds tested: Wm. Evans, 1900; Ewing, 1899.)

Same as Hanson from the former and Deacon from the latter seedsman. Apparently not listed after 1900.

Morse. (See p. 62.)

Moore's Champion Spring and Summer. (Seeds tested: Moore & Simon, 1900, 1901.)

Described under Champion Spring and Summer.

Moore's Magnum Bonum. (Seeds tested: Moore & Simon, 1900, 1901.)

Described under Magnum Bonum.

Moore's Summer Gem. (Seeds tested: Moore & Simon, 1900, 1901.)

Described under Summer Gem.

Myers' All Right. (Listed by six seedsman. Seeds tested: Johnson & Stokes, 1899, 1900.)

Same as Big Boston. Named and introduced as a new variety in 1888 by Johnson & Stokes, who state it originated with Mr. Henry Myers, a prominent Philadelphia market gardener. The type is quite different from that of All Right Spring and Autumn.

Nansen. (See p. 63.)

Neapolitan Cabbage. (Listed by one seedsman.)

A very old name known in this country for at least thirty-nine years. The variety seems to have had its origin in France. It has not yet been tested on the Department grounds, but reports of it from other places state it to be the same as Sibley's Genesee of twenty years ago, Chou de Naples of Italian seedsman, and New York of the present day. The type is quite different from that of Neapolitan Sash listed by Moore & Simon.

Neapolitan Sash. (Listed by one seedsman. Seeds tested: Moore & Simon, 1900-1903.)

Same as Reichner. Named and first listed in 1895 by above seedsman as Simon's Neapolitan Sash. The Neapolitan Cabbage, a very old sort of foreign origin and catalogued about thirty-eight years ago by seedsman in this country, but now listed only by George A. Weaver Company, is a very different lettuce from Neapolitan Sash.

New Asparagus. (Listed by two seedsman. Seeds tested: Buckbee, 1901, 1902; Ewing, 1902, 1903.)

The former seedsman's samples were the same as the lanceolate-leaved type of Asparagus described on page 30, and the latter seedsman's samples the same as the lobed-leaved type of Asparagus also described on page 30.

New Lettuce No. 1. (Listed by one seedsman. Seeds tested: Moore & Simon, 1900, 1901, 1903.)

Same as Big Boston. Named and first listed in 1900 by Moore & Simon, who state they obtained the variety from Mr. John Norbeck, a Philadelphia market gardener.

New Orleans Large Passion. (Listed by four seedsman. Seeds tested: Steckler 1899-1902.)

Same as California Cream Butter.

New York. (See p. 63.)

Ninety and Nine. (Listed by one seedsman. Seeds tested: Crosman, 1900, 1901; Vaughan, 1899.)

Same as Tennis Ball Black-Seeded. Listed about nine years ago by a few seeds-men in this country, but the name seems now to have wholly gone out of use.

Nonsuch. (Seeds tested: Pearce, 1899.)

Same as Deacon. Apparently named and first listed by the above seedsman the predecessor of Darch & Hunter.

Noll's Boston Glasshouse. (Seeds tested: Noll, 1901.)

Described under Boston Glasshouse.

Nonpareil. (Listed by twelve seedsman. Seeds tested: J. M. McCullough, 1901; Simmers, 1899-1901.)

Same as Hanson. Listed by John A. Bruce & Co. for at least fifty years.

Norfolk Royal. (Seeds tested: Landreth, 1901.)

Same as Deacon. Apparently named and first listed by above seedsman.

North Pole. (Listed by three seedsman. Seeds tested: Burpee, 1901-1903; Germain, 1901.)

Same as Nansen. First listed in this country by Germain Seed Company in 1898 as synonymous with Nansen. Said to be of German origin.

Northrup, King & Co.'s Golden Ball. (Seeds tested: Northrup, King & Co., 1900, 1901.)

Described under Golden Ball.

Norwood. (Listed by one seedsman. Seeds tested: J. M. McCullough, 1902, 1903.)

Same as Middletowner. Named and first listed in 1902 by above seedsman.

Oak-Leaved. (See p. 64.)

Ohio Cabbage. (Listed by one seedsman. Seeds tested: Steele, Briggs & Co., 1901; Tilton, 1901.)

Same as Denver Market.

Onondaga. (See p. 64.)

Pan-American. (Listed by one seedsman. Seeds tested: Mills, 1902.)

Same as Eureka. Named and first listed in 1901 by above seedsman.

Paris Sugar. (See p. 65.)

Paris White Cos. (See p. 65.)

Passion. (See p. 66.)

Peer of All. (Listed by one seedsman. Seeds tested: Salzer, 1899-1901, 1903.)

Same as Prize Head in 1899 and 1901, and Chartier in 1900 and 1903. Named and first listed by above seedsman, who has listed it for at least nine years.

Perfected Salamander. (Seeds tested: Henderson, 1900-1902.)

Described under Salamander.

Perfection Early White Forcing. (Seeds tested: Buist, 1899-1901.)

Same as White Forcing. Named and first listed in 1887 by Robert Buist Company, under name of Buist's Perfection White Forcing. The type is quite different from that of Godden's White-Seeded Forcing, Giant White Forcing, and California Giant White Forcing.

Perpetual. (Listed by nine seedsman. Seeds tested: Chesmore-Eastlake, 1902; Huntington & Page, 1901; Johnson & Stokes, 1899, 1900; Livingston, 1900; Rice, 1901.)

Same as Early Curled Simpson. Listed in 1880 by James J. H. Gregory & Son as Nellis' Perpetual, but apparently named and first listed by other seeds-men.

Perpignan. (Listed by ten seedsmen. Seeds tested: Vaughan, 1899, 1900.)

Same as Defiance. An old variety of German origin listed by seedsmen in this country for at least thirty-seven years. A lettuce similar to Deacon and very distinct from this type seems to have formerly been largely sold under this name.

Philadelphia Butter. (See p. 66.)

Philadelphia Dutch Butter. (Seeds tested: Burpee, 1899-1901, 1903.)

Same as Speckled Dutch Butter. The type is quite different from that of Philadelphia Butter and Maule's Philadelphia Butter.

Philadelphia Early White Cabbage. (Listed by five seedsmen. Seeds tested: Burpee, 1899-1903; Johnson & Stokes, 1901, 1903.)

In some trials the above samples appeared the same as Philadelphia Butter; at other times the same as Reichner. The variety is probably identical with one of them.

Pink Chartier. (Seeds tested: Vaughan, 1899-1901.)

Same as Chartier. A name formerly applied to Chartier by above seedsmen, but not now used by him or any other seedsmen.

Plant Seed Company's Standwell. (Seeds tested: Plant, 1901.)

Described under Standwell.

Precocity. (Listed by one seedsmen. Seeds tested: Henderson, 1902, 1903.)

Same as Emperor Forcing. Named and first listed in 1902 by above seedsmen.

Premium Cabbage. (Listed by ten seedsmen. Seeds tested: Chesmore-Eastlake, 1903; Manns, 1901; Rice, 1900, 1901; Vick, 1901-1903.)

In some trials the above samples appeared the same as Philadelphia Butter; at other times the same as Reichner, or Hubbard's Market. The variety is probably the same as one of these sorts. Apparently named and introduced in 1875 by James Vick's Sons under the name of Vick's Premium Cabbage. They state that Mr. Hubbard, of Chautauqua County, N. Y., was the originator, and sold some of his seed to their seed house and also to Chase Brothers, nurserymen, who were handling seed at that time. The latter are said to have introduced the lettuce as Hubbard's Market.

Price & Knickerbocker's Mammoth Head. (Listed by one seedsmen. Seeds tested: Price, 1899-1901.)

Same as Tennis Ball Black-Seeded. Named and first listed by above seedsmen in 1876.

Prince of Wales Cos. (See p. 67.)

Prize Head. (See p. 67.)

Queen. (Seeds tested: Faust, 1899, 1900.)

Same as New York. Named and first listed as Faust's Queen by above seedsmen. The type is quite different from that of Golden Queen and Yellow Queen.

Rawson's Crumpled-Leaved. (Seeds tested: Rawson, 1899, 1901.)

Described under Crumpled-Leaved.

Rawson's Hothouse. (Seeds tested: Rawson, 1900, 1901; Vaughan, 1900; Vick, 1901.)

Described under Hothouse.

Red Besson. (See p. 68.)

Red Winter Cos. (See p. 68.)

Reichner. (See p. 69.)

Reichner's Early White Butter. (Seeds tested: Johnson & Stokes, 1899-1901.) Same as Reichner.

Relish. (Listed by one seedsmen. Seeds tested: Iowa Seed Company, 1899, 1902, 1903.)

Same as Big Boston. Named and introduced as a new variety in 1900 by above seed house.

Rennie & Pino's Hothouse. (Seeds tested: Rennie & Pino, 1903.)

Described under Hothouse.

Ridge. (Listed by one seedsman. Seeds tested: Johnson & Stokes, 1900.)
Same as Reichner. Named and first listed by above seedsmen.

Rochester Market. (Seeds tested: Glass, 1901, 1903.)
Same as Reichner. Apparently named and first listed about five years ago by above seedsmen.

Romaine Cos. (Listed by twenty-six seedsmen Seeds tested: Landreth, 1901; Moore & Simon, 1900, 1901.)

Same as Paris White Cos. A very old name. Sometimes used to designate the cos class of lettuce, but whenever applied in this country to designate a variety it is generally Paris White Cos which is referred to.

Rosedale. (Listed by one seedsman. Seeds tested: Darch & Hunter, 1899-1901, 1903.)

Same as Denver Market the first two years and Defiance the last two. Apparently first listed by John A. Pearce, the predecessor of the above seedsmen.

Rosette. (Listed by one seedsman. Seeds tested: Maule, 1901-1903.)
Described under Maule's Rosette.

Royal Cabbage. (Listed by thirty-two seedsmen. Seeds tested: Buist, 1900, 1901; Dusard, 1899, 1900; Robert Evans, 1899; Landreth, 1899; Plant, 1900; Steckler, 1901; Tait, 1901; Vick, 1899-1903.)

A name known in this country for at least thirty-eight years and much misused. Applied to a number of different lettuce types, but principally to Hubbard's Market and California Cream Butter. The above samples were all the former variety except those from Michell, which were California Cream Butter. The name has been used for many years in California to designate California Cream Butter; in fact, was in use many years before California Cream Butter was known.

Rudolph's Favorite. (Listed by three seedsmen. Seeds tested: Iowa, 1901; Vaughan, 1899-1901.)

Same as Buttercup. Of foreign origin. First listed in this country by Vaughan's Seed Store in 1894. The type is quite different from that of Gardener's Favorite, Sutton's Favorite, and Florida Favorite.

St. Louis Black-Seeded Forcing. (See p. 69.)

St. Louis Butter. (Listed by eleven seedsmen. Seeds tested: Currie, 1903; Landreth, 1902; Scott, 1899, 1900; Vaughan, 1899-1901.)

Same as Deacon. The name has been used in this country at least sixteen years, and is well known in Chicago, St. Louis, and the West. The type is quite different from that of St. Louis Market and St. Louis Black-Seeded Forcing.

St. Louis Market. (Listed by eight seedsmen. Seeds tested: Dusard, 1899-1902; Eber, 1903; Plant, 1901, 1903; Schisler-Corneli, 1903.)

It seems this name is used by most seedsmen to represent a type identical with Hubbard's Market, but that some others take it to refer to St. Louis Butter. All of the above samples were the former variety. In no case should it be confounded with St. Louis Black-Seeded Forcing, as that is unquestionably a different type from either of these two varieties.

Salamander. (Listed by one hundred and seventeen seedsmen. Seeds tested: Burpee, 1903; Burwell, 1899, 1900; Farquhar, 1901; Ferry, 1900, 1901; Henderson, 1900-1902; Johnson & Stokes, 1899, 1900, 1903; Landreth, 1899, 1901; Thorburn, 1899, 1901.)

Same as Tennis Ball Black-Seeded. Named and introduced as a new variety in 1882 by Peter Henderson & Co., who state that it originated with Hudson County, N. Y., market gardeners. In 1895 another strain was listed by these seedsmen and called Perfected Salamander. Commonly considered to be larger than Tennis Ball Black-Seeded, but it has not proved so at Washington nor in other trials which the writer has examined. It is one of the best known of all lettuce names.

Salzer's Colossal. (Listed by one seedsman. Seeds tested: Salzer, 1899, 1901, 1903.)
Same as Deacon. Named and introduced in 1899 by above seedsman. The type is quite different from that of Tait's Colossal.

Salzer's Earliest. (Listed by one seedsman. Seeds tested: Salzer, 1899, 1901.)

Same as Black-Seeded Simpson. Named and first listed by above seedsman, who has catalogued it for at least nine years. It should not be confounded with Earliest Cutting as sent out by W. E. Dallwig.

Salzer's Peer of All. (Seeds tested: Salzer, 1899-1901, 1903.)

Described under Peer of All.

Salzer's Sunlight. (Seeds tested: Salzer, 1900, 1901, 1903.)

Described under Sunlight.

San Francisco Market. (Listed by twelve seedsmen. Seeds tested: Burpee, 1901-1903.)

Same as Deacon. Apparently named and first listed in 1897 by W. Atlee Burpee & Co., not, however, as a new variety, but as another name for Deacon. It should not be confounded with San Francisco Passion.

San Francisco Passion. (Listed by one seedsman. Seeds tested: Buist, 1901.)

Same as Passion. The type is quite different from that of San Francisco Market.

Satisfaction Black-Seeded. (Listed by twenty-five seedsmen. Seeds tested: Farquhar, 1900; Gregory, 1900; Plant, 1899.)

Same as Tennis Ball Black-Seeded. An English variety listed by seedsmen in this country for at least twenty-six years.

Saunders. (Seeds tested: Beckert, 1899, 1900, 1902.)

Same as St. Louis Black-Seeded Forcing. Named and first listed in 1891 by above seedsman, who states that the variety is named after a local market gardener in whose possession it had remained for a number of years.

Schindler's Early Market. (Seeds tested: Schindler, 1903.)

Described under Early Market.

Schwill's Bonanza. (Seeds tested: Schwill, 1899.)

Described under Bonanza.

Sensation. (Listed by twenty-seven seedsmen. Seeds tested: Johnson & Stokes, 1899-1901; Thorburn, 1900, 1901.)

Same as Tennis Ball Black-Seeded. Named and introduced by Johnson & Stokes from France in 1892.

Shotwell's Brown Head. (*See p. 70.*)

Shotwell's Brown Head (Bridgeman). (*See p. 70.*)

Shumway's Mammoth. (Listed by one seedsman. Seeds tested: Shumway, 1899-1901.)

Same as Marblehead Mammoth. Named and first listed by above seedsman.

Silver Anniversary. (Listed by one seedsman. Seeds tested: Maule, 1903.)

Same as Giant Glacier. Named and introduced in 1902 by William Henry Maule as Maule's Silver Anniversary.

Silver Ball. (*See p. 71.*)

Simmers' Nonpareil. (Seeds tested: Simmers, 1899, 1901.)

Described under Nonpareil.

Simon's Early White Cabbage. (Seeds tested: Moore & Simon, 1900.)

Described under Early White Cabbage.

Simon's Neapolitan Sash. (Seeds tested: Moore & Simon, 1900-1903.)

Described under Neapolitan Sash.

Simon's Speckled Dutch Butter. (Seeds tested: Moore & Simon, 1901.)

Described under Speckled Dutch Butter.

Slow Seeder. (Listed by one seedsman. Seeds tested: Landreth, 1899-1901.)

Same as Defiance. Apparently named and first listed in 1894 by above seed house.

Solid Header. (Listed by one seedsman. Seeds tested: Briggs, 1901.)

Same as Yellow-Seeded Butter.

Southern Heart. (Listed by one seedsman. Seeds tested: Salzer, 1901.)

Same as Passion. The above seedsman first used this name in 1901, but it may have been used by others before that date.

Speckled Dutch Butter. (*See p. 71.*)

Speckled Early Dutch Butter. (Seeds tested: Dreer, 1899; Michell, 1899, 1900.)

Same as Speckled Dutch Butter.

Standwell. (Listed by one seedsman. Seeds tested: Plant Seed Company, 1900, 1901.)

Same as Defiance. Listed by above seed house for at least ten years, and in 1886 by Johnson & Stokes as Johnson's Standwell.

Steckler's French Market. (Seeds tested: Steckler, 1900, 1901, 1903.)
Described under French Market.

Sterling. (Listed by one seedsman. Seeds tested: Northrup King & Co., 1900, 1901.)
Same as New York. Named and introduced as a new variety in 1900 by above seedsmen.

Stone Head Golden Yellow. (Listed by thirty-two seedsmen. Seeds tested: Bridgeman, 1900, 1901, 1903; Dallwig, 1900, 1901; Ebeling, 1900; Eber, 1901; Ewing, 1901; Gregory, 1900, 1902, 1903; Thorburn, 1901, 1902.)

As generally sold in the United States this variety seems to be the same as Golden Queen. All the above samples proved to be of the latter variety, and as imported into this country from Germany about twenty-five years ago it seems to have been of this type at that time also. There seems to be much misunderstanding, however, in the use of the name, as orders for this variety have been filled by seeds which proved to be Yellow-Seeded Butter, Golden Heart, Hubbard's Market, Emperor Forcing, Buttercup, and Tennis Ball Black-Seeded, while still another type, very different from these and similar to Golden Queen, but larger and later, appears to be sometimes used for Stone Head Golden Yellow.

Stringer's Early White Butter. (Listed by one seedsman. Seeds tested: Moore & Simon, 1901.)

Same as Reichner. Listed by above seedsman in 1891, but it is not known whether others had previously used the name.

Stubborn Seeder. (Listed by one seedsman. Seeds tested: Maule, 1899—1901, 1903.)

Same as Defiance. Apparently named and first listed by above seedsman, who has used the name for at least fifteen years.

Sugar Loaf. (See p. 72.)

Summer Drum Head. (Seeds tested: Michell, 1900, 1901; Texas Seed Company, 1903.)

Same as California Cream Butter from the former and Hubbard's Market from latter seed house. (See Drum Head.)

Summer Gem. (Listed by one seedsman. Seeds tested: Moore & Simon, 1900, 1903.)

Same as Deacon. Named and first listed as Moore's Summer Gem in 1892 by above seedsmen. The type is quite different from that of Toronto Gem.

Summerlead. (Listed by one seedsman. Seeds tested: Johnson & Stokes, 1901.)
Same as Maximum. Named and first listed in 1901 by above seedsmen.

Summer Queen Drum Head. (Listed by one seedsman. Seeds tested: Moore & Simon, 1903.)

Same as Deacon. Apparently named and first listed in 1892 by above seedsmen as Simon's Summer Queen Drum Head. See Drum Head.

Sunlight. (Listed by one seedsman. Seeds tested: Salzer, 1900, 1901, 1903.)

Same as Deacon. Apparently named and first listed by above seedsman as Salzer's Sunlight, under which name it has been catalogued for at least nine years.

Sunset. (Listed by one seedsman. Seeds tested: Ford, 1901.)

Same as Blonde Block Head. It seems that this lettuce was introduced as a new variety about fourteen years ago. It is universally regarded by seedsmen to be the same as Blonde Block Head.

Surprise. (Seeds tested: Buckbee, 1903.)

Same as Brown Head. Named and first listed in 1902 by above seedsman.

Sutton's Favorite. (Seeds tested: Michell, 1899, 1900.)

Same as Denver Market. Listed by above seedsman in 1900 and 1901, who sold the variety during these years in the original seed packets obtained from Sutton, of England. The type is quite different from that of Favorite, Rudolph's Favorite, Gardener's Favorite, and Florida Favorite.

Sutton's Giant Cabbage. (See p. 72.)

Tait's Colossal. (Listed by one seedsman. Seeds tested: Tait, 1903.)
Same as Deacon. The type is quite different from that of Salzer's Colossal.

Tait's Imperial. (Seeds tested: Tait, 1901, 1903.)
Described under Imperial.

Tait's Midsummer. (Seeds tested: Tait, 1901.)
Described under Midsummer.

Tait's Royal Cabbage. (Seeds tested: Tait, 1904.)
Described under Royal Cabbage.

Tender Leaf. (Seeds tested: Shumway, 1901.)
Same as Marblehead Mammoth. Named and first listed by above seedsman.

Tennis Ball Black-Seeded. (*See* p. 72.)

Tennis Ball White-Seeded. (*See* p. 73.)

Thick Head Yellow. (*See* p. 74.)

Thorburn's Glasshouse. (Seeds tested: Thorburn, 1900—1902.)
Described under Glasshouse.

Thorburn's Market Gardener's Private Stock. (Seeds tested: Thorburn, 1899, 1900, 1903.)
Described under Market Gardener's Private Stock.

Thorburn's Maximum. (Seeds tested: Thorburn, 1899—1901.)
Described under Maximum.

Thorburn's Yellow Winter. (Seeds tested: Thorburn, 1900—1903.)
Described under Yellow Winter.

Tilton's White Star. (Seeds tested: Ferry, 1899—1902; Maule, 1900; Templin, 1900; Tilton, 1900, 1904; Thorburn, 1903.)
Described under White Star.

Tomhannock. (*See* p. 74.)

Tom Thumb. (*See* p. 75.)

Toronto Gem. (Listed by one seedsman. Seeds tested: Steele, Briggs & Co., 1899—1901.)
Same as Hanson. Named and introduced in 1888 by above seedsmen. The type is quite different from that of Summer Gem.

Toronto Market. (Listed by two seedsman. Seeds tested: Simmers; 1899—1901.)
Same as Hanson. Apparently named and first listed by above seedsman, who has catalogued it for at least seven years.

Treasure. (Listed by two seedsman. Seeds tested: Johnson & Stokes, 1899—1901.)
Same as California Cream. Butter. Named and introduced in 1895 by above seedsmen.

Trianon Cos. (Listed by fifty-seven seedsman. Seeds tested: Farquhar, 1901; Henderson, 1901; Johnson & Stokes, 1899; Rawson, 1901; Thorburn, 1899—1901.)
Same as Paris White Cos.

Triumph. (Listed by one seedsman. Seeds tested: Manns, 1901, 1903.)
Same as Deacon. Named and introduced as a new variety in 1900 by above seedsman. The type is quite different from that of Australian White Triumph.

Trocadero. (Listed by twelve seedsman. Seeds tested: Thorburn, 1899, 1900, 1902.)
Same as Big Boston. A well-known French variety listed by seedsman in this country for at least twenty years.

Trout. (*See* p. 75.)

Twentieth Century. (Listed by one seedsman. Seeds tested: Noll, 1900—1903.)
Same as Tennis Ball Black-Seeded. Named and first listed as a new variety about five years ago by above seedsman.

Tyrolese. (*See* p. 76.)

Universal. (Listed by one seedsman. Seeds tested: Livingston, 1903.)
Same as Unrivaled. Named and first listed in 1903 by above seedsman.

Unrivaled. (*See p. 76.*)

Unsurpassed. (Listed by one seedsman. Seeds tested: Landreth, 1902.)
Same as Unrivaled. Named and first listed in 1902 by above seed house.

Vaughan's All Seasons. (Seeds tested: Vaughan, 1903.)
Described under All Seasons.

Vaughan's Mammoth Cabbage Head. (Seeds tested: Vaughan, 1899-1901.)

Same as Mammoth Black-Seeded Butter. Named and first listed in 1901 by above seedsman but not catalogued by any seed house after 1901.

Vick's Hero. (Seeds tested: Vick, 1899-1903.)
Described under Hero.

Vick's Premium Cabbage. (Seeds tested: Vick, 1903.)
Described under Premium Cabbage.

Vick's Royal Cabbage. (Seeds tested: Vick, 1899-1903.)
Described under Royal Cabbage.

Victoria Red-Edged. (*See p. 77.*)

Vincent's Passion. (Seeds tested: Vincent, 1901, 1903.)
Described under Passion.

Virginia Solid Header. (Listed by seven seedsmen. Seeds tested: Koerner, 1900; Landreth, 1899, 1900, 1902; Mark W. Johnson, 1900.)

Same as Speckled Dutch Butter. Named and introduced in 1865 by D. Landreth Seed Company.

Waldorf. (Listed by two seedsmen. Seeds tested: Henderson, 1901-1903.)
Same as Reichner. Named and introduced as a new variety in 1898 by above seedsmen.

Weaver's Market Gardener's. (Listed by one seedsman. Seeds tested: Weaver, 1903.)

Same as Iceberg. Named and first listed in 1903 by George A. Weaver Seed Company. The type is quite different from that of Market Gardener's Private Stock.

Webb's Wonderful. (Seeds tested: Burpee, 1901, 1902.)
Described under Wonderful.

Weber's Brown Head. (Listed by one seedsman. Seeds tested: Weber, 1903.)
Described under Brown Head.

Weber's Curled. (Listed by one seedsman. Seeds tested: Weber, 1903.)
Same as Denver Market. Apparently named and first listed by above seedsman.

Wernich's Prize Head. (Seeds tested: Wernich, 1900.)
Described under Prize Head.

Wheeler's Tom Thumb. (Seeds tested: Burpee, 1900, 1901.)
Described under Tom Thumb.

Wheeler's Wonderful. (Seeds tested: Wheeler, 1903.)
Described under Wonderful.

White Cabbage. (Seeds tested: Vaughan, 1900, 1901.)
Same as White Summer Cabbage. A very old name.

White Chartier. (Listed by one seedsman. Seeds tested: Scott, 1899-1903.)
A name which has been applied by above seedsman to Golden Curled, the word *white* being attached to distinguish it from Chartier, which is a brown-colored lettuce.

White Chavigne. (*See p. 77.*)

White Cos. (Listed by seventeen seedsmen. Seeds tested: Landreth, 1899, 1901, 1902; Thorburn, 1899, 1901.)
Same as Paris White Cos.

White Forcing. (*See p. 78.*)

White Giant. (*See p. 78.*)

White Head. (Listed by five seedsmen. Seeds tested: Ferry, 1900.)

Same as Philadelphia Butter. A name which has been used for at least sixteen years by above seedsmen as synonymous with Philadelphia Butter.

White Loaf. (*See p. 78.*)

White Peach. (Listed by one seedsmen. Seeds tested: Moore & Simon, 1900, 1901, 1903.)

Same as Tennis Ball Black-Seeded. Named and first listed in 1892 by above seedsmen.

White Russian. (Listed by six seedsmen. Seeds tested: Johnson & Stokes, 1899.)
Same as Deacon.

White-Seeded Simpson. (Listed by thirteen seedsmen. Seeds tested: Johnson & Stokes, 1900.)

A very old variety, known in this country for at least forty years. It is said to be derived from Early Curled Silesia and to have originated with Mr. Simpson, a market gardener near Brooklyn, N. Y.

White-Seeded Summer. (Listed by two seedsmen. Seeds tested: Griffith & Turner, 1899, 1900, 1902.)

Same as White Chavigne. Named and first listed by Baltimore and Washington seedsmen, about seven years ago.

White Self-Folding Cos. (Seeds tested: Ferry, 1900.)

Same as Paris White Cos.

White Star. (*See p. 79.*)

White Summer Cabbage. (*See p. 79.*)

Wonderful. (Listed by forty-six seedsmen. Seeds tested: Burpee, 1901, 1902; Dreer, 1899-1901; Farquhar, 1901; Wheeler, 1903.)

Same as New York. An English variety first listed in this country by Henry A. Dreer in 1897.

Wood's Cabbage. (Listed by two seedsmen. Seeds tested: Wood, 1899-1902.)

Same as Hubbard's Market. Named and first listed in 1894 by above seedsmen.

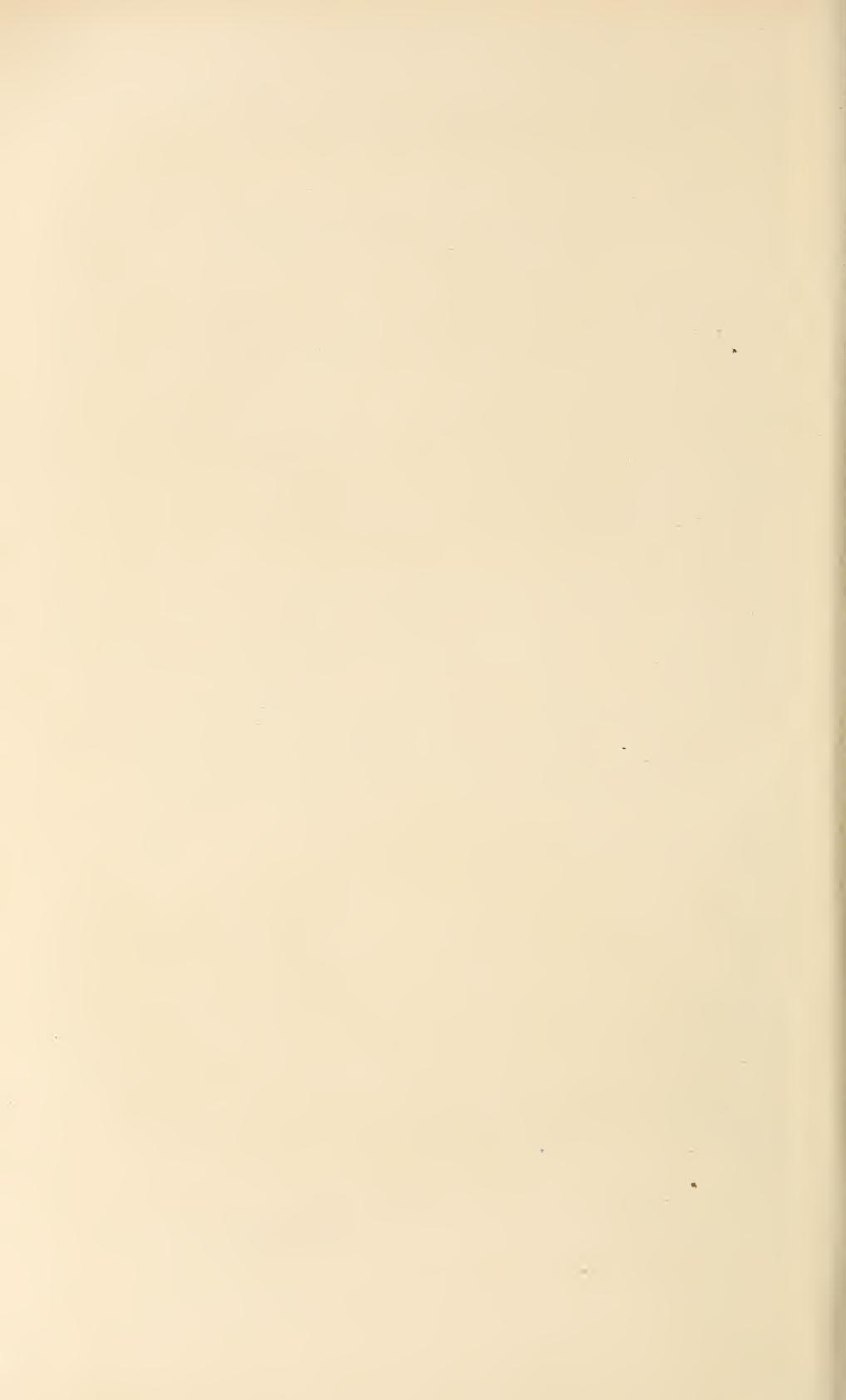
Yellow Queen. (Listed by one seedsmen. Seeds tested: May, 1901, 1903.)

Same as Reichner. Apparently named and first listed in 1901 by above seedsmen. The type is quite different from that of Faust's Queen and Golden Queen.

Yellow-Seeded Butter. (*See p. 79.*)

Yellow Winter. (*See p. 80.*)





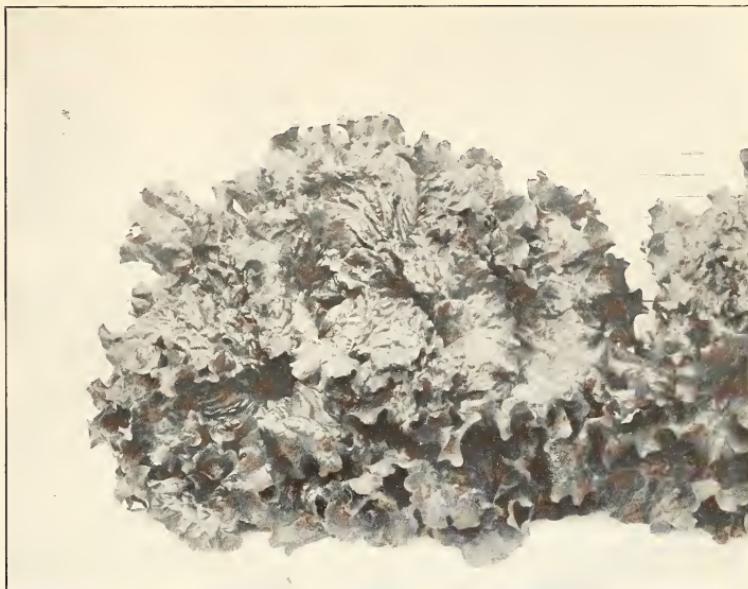


FIG. 1.—BLACK-SEEDED SIMPSON.



FIG. 2.—HANSON.

TYPICAL MATURE PLANTS.

(About one-fifth natural size.)

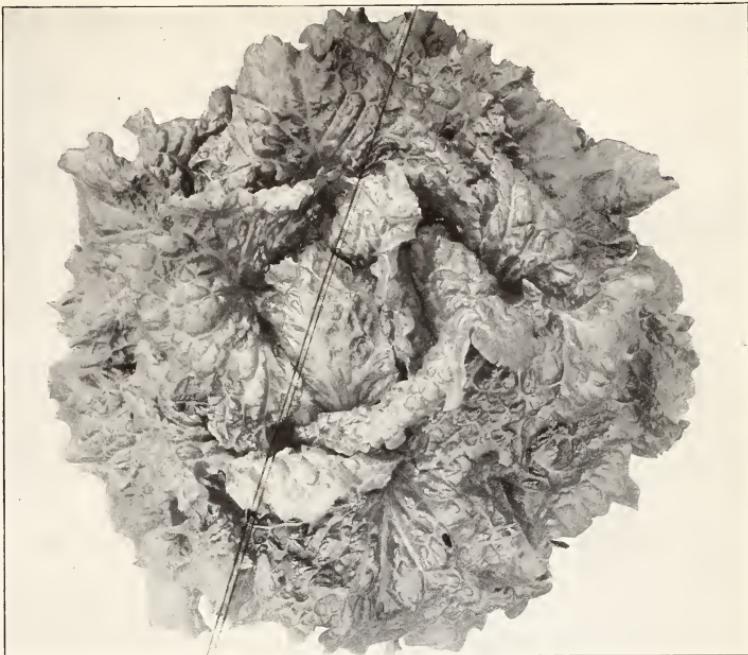


FIG. 1.—TYROLESE.



FIG. 2.—GOLDEN HEART.

TYPICAL MATURE PLANTS.

(About one-fifth natural size.)

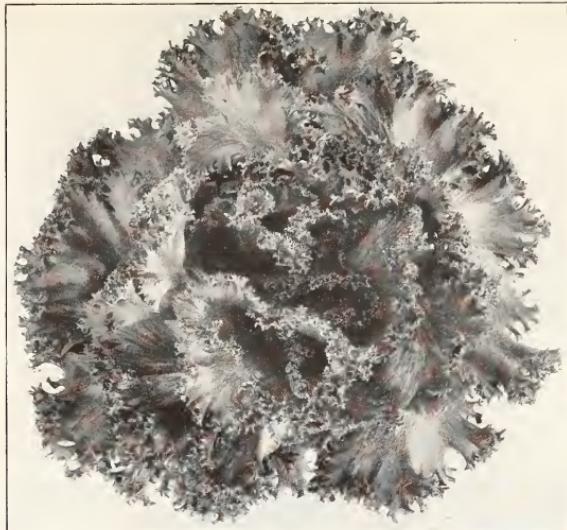


FIG. 1.—GREEN-FRINGED.



FIG. 2.—BATH COS.

TYPICAL MATURE PLANTS.

(About one-fifth natural size.)

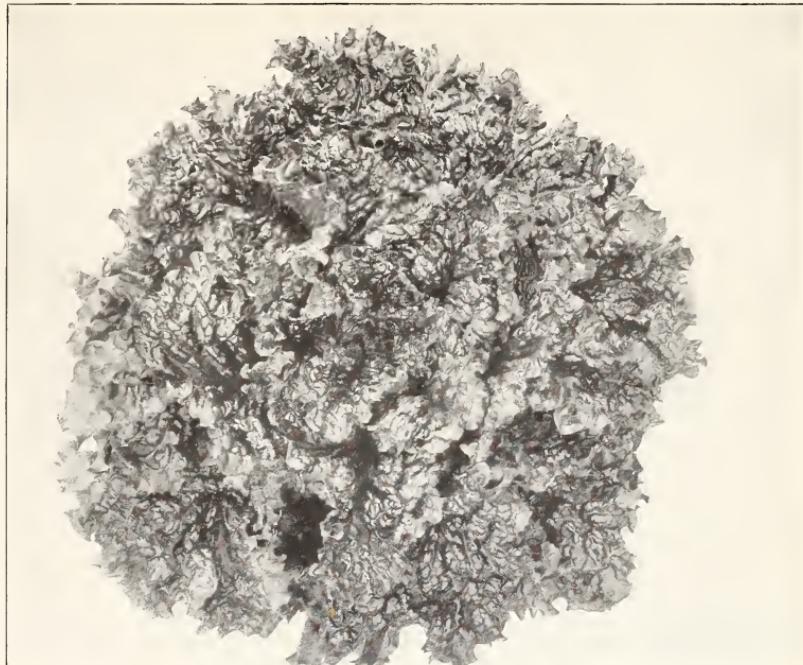


FIG. 1.—AMERICAN GATHERING.

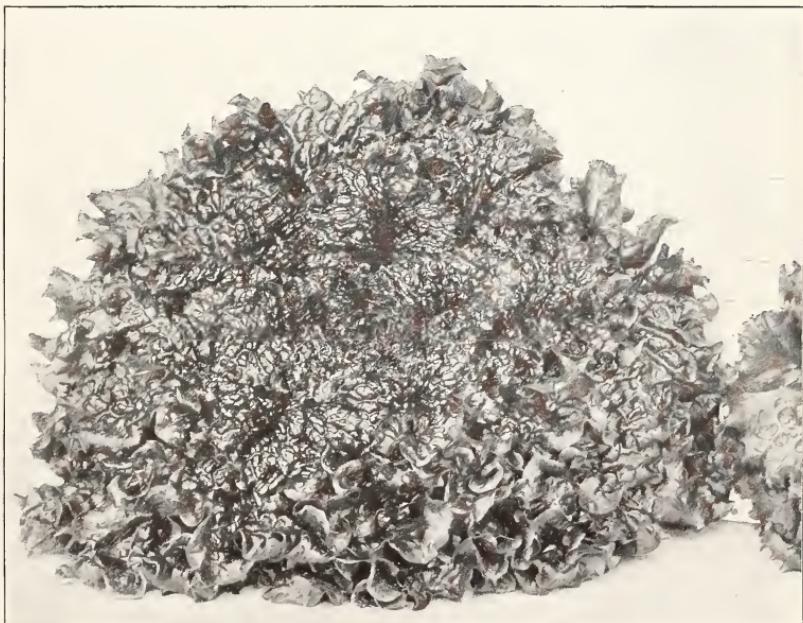


FIG. 2.—EARLY CURLED SIMPSON.

TYPICAL MATURE PLANTS.

(About one-fifth natural size.)



FIG. 1.—BIG BOSTON.

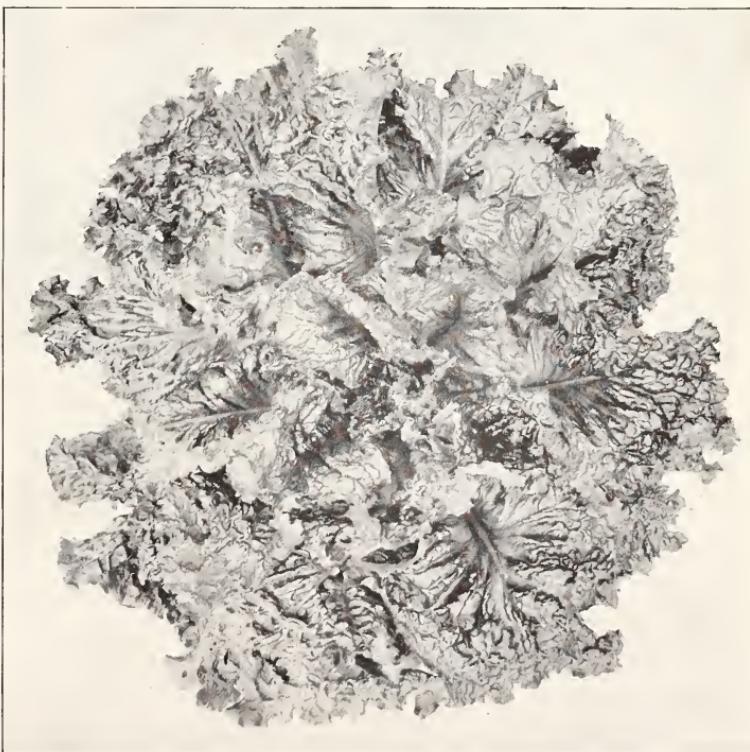
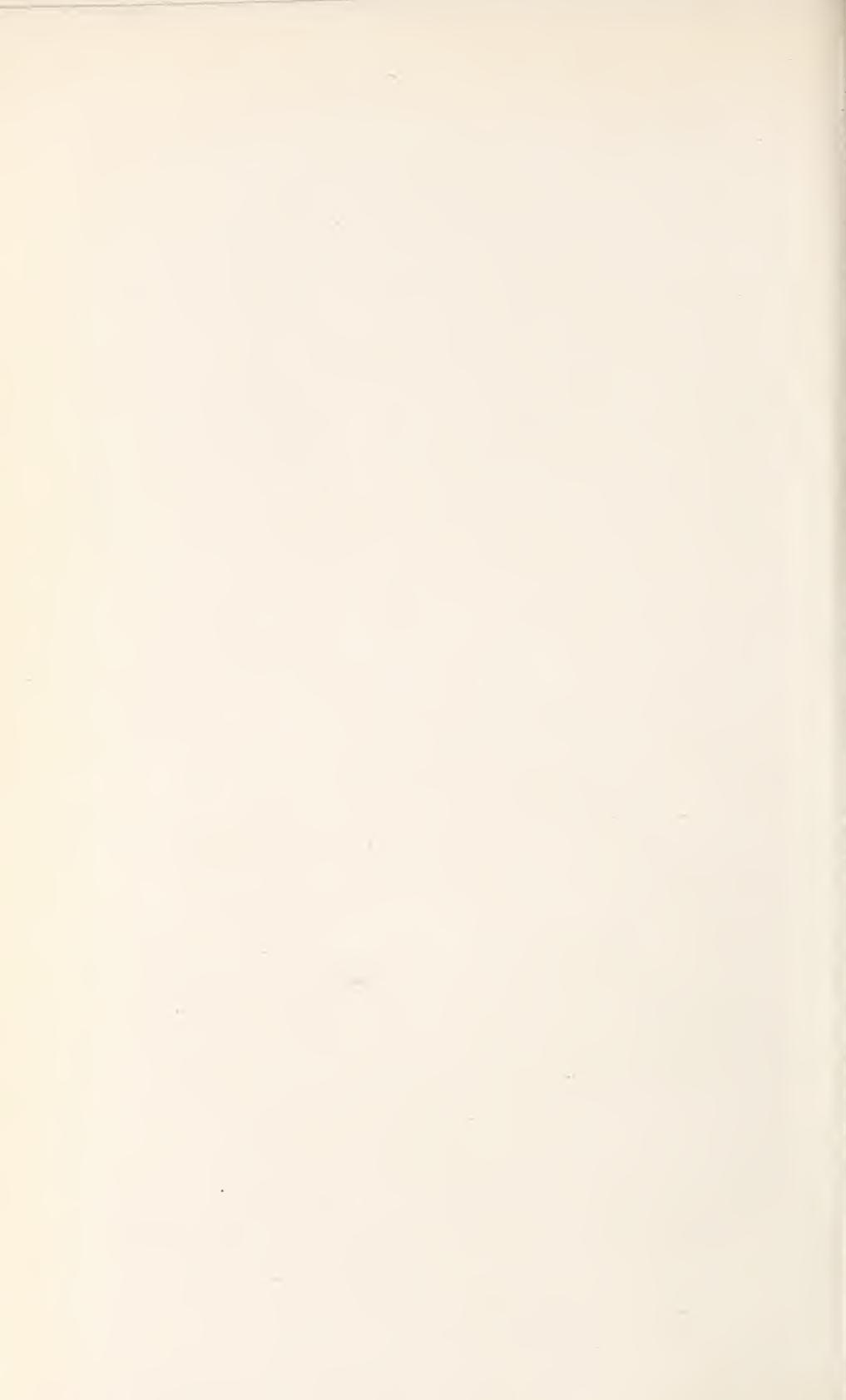


FIG. 2.—PRIZE HEAD.

TYPICAL MATURE PLANTS.

(About one-fifth natural size.)



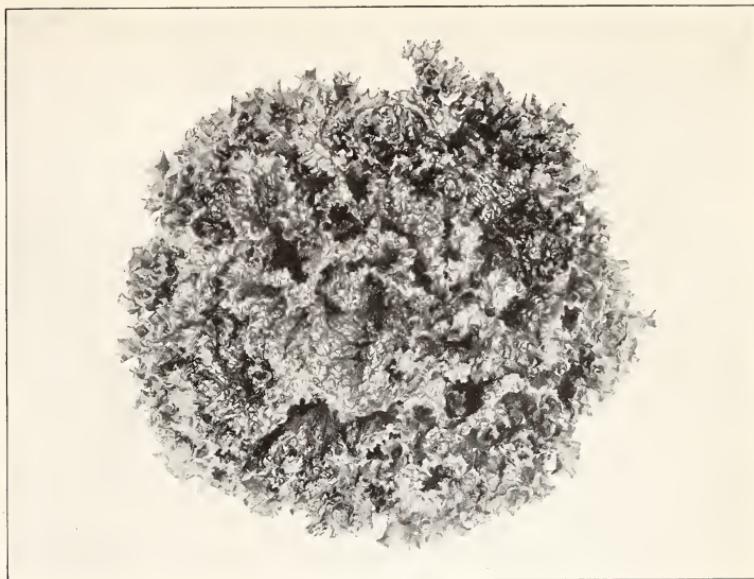


FIG. 1—ONONDAGA.

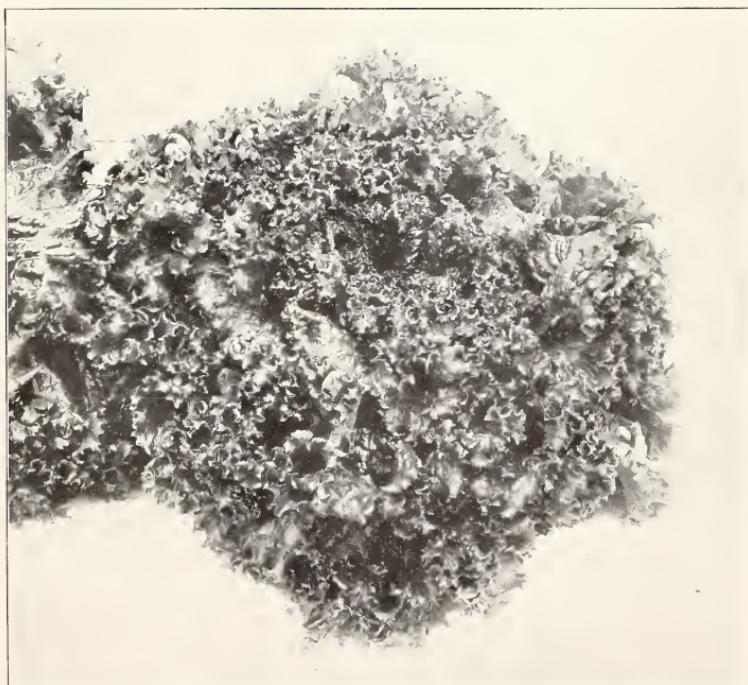


FIG. 2.—GRAND RAPIDS.
TYPICAL MATURE PLANTS.
(About one-fifth natural size.)

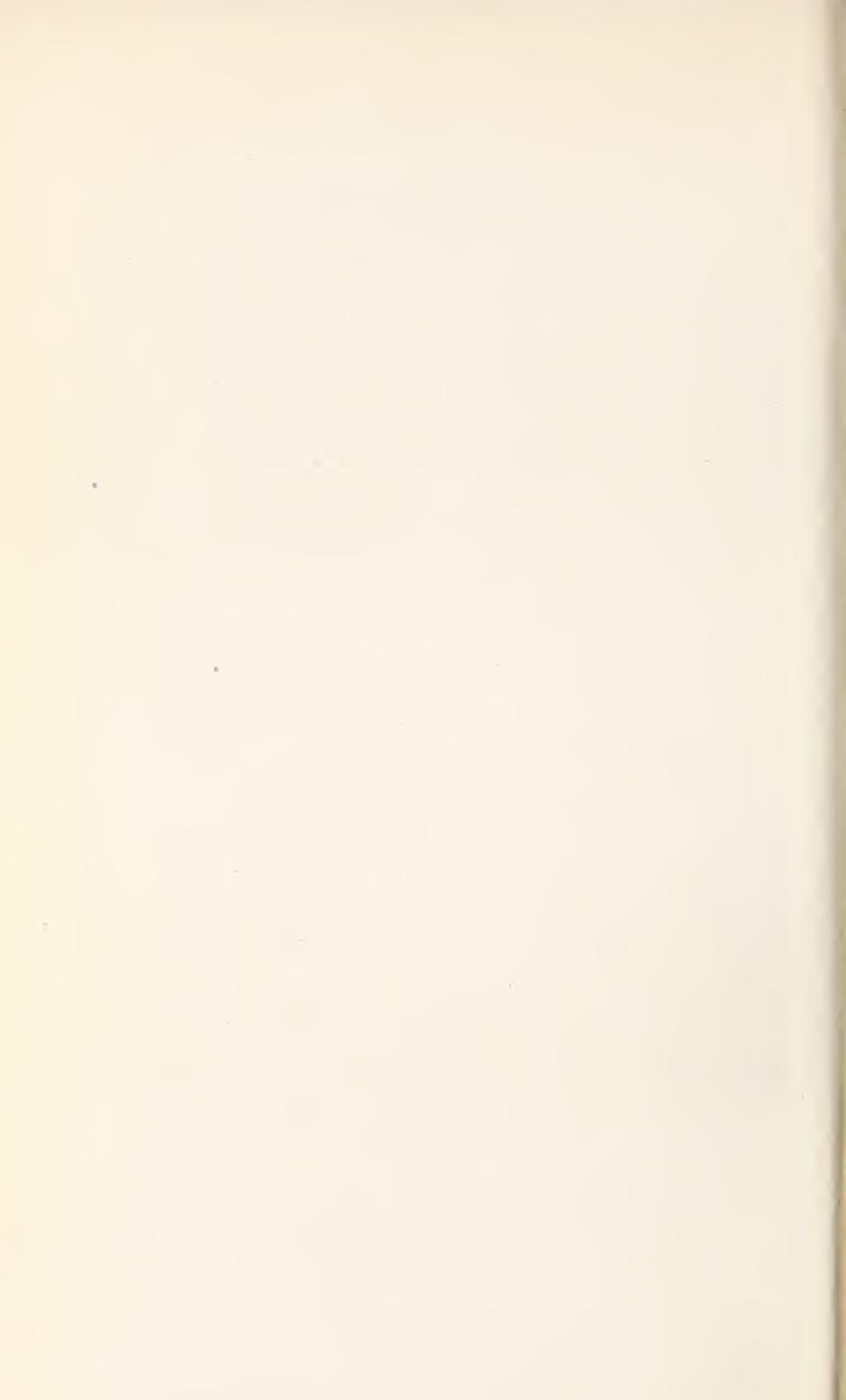




FIG. 1.—DENSITY.

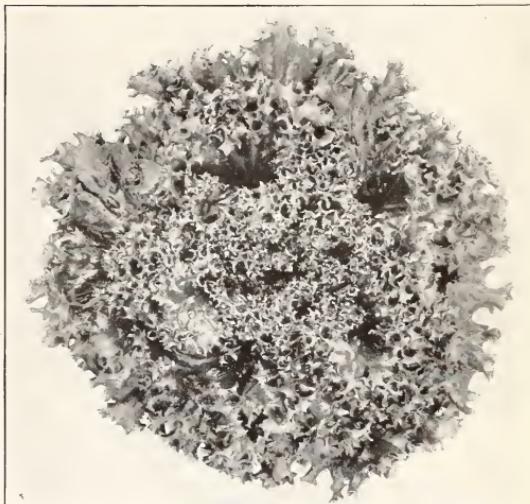


FIG. 2.—BOSTON CURLED.

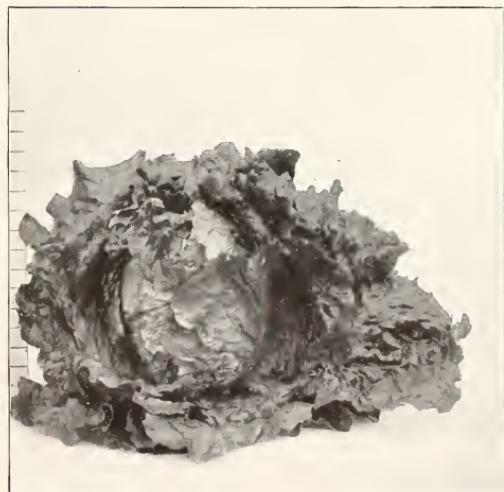


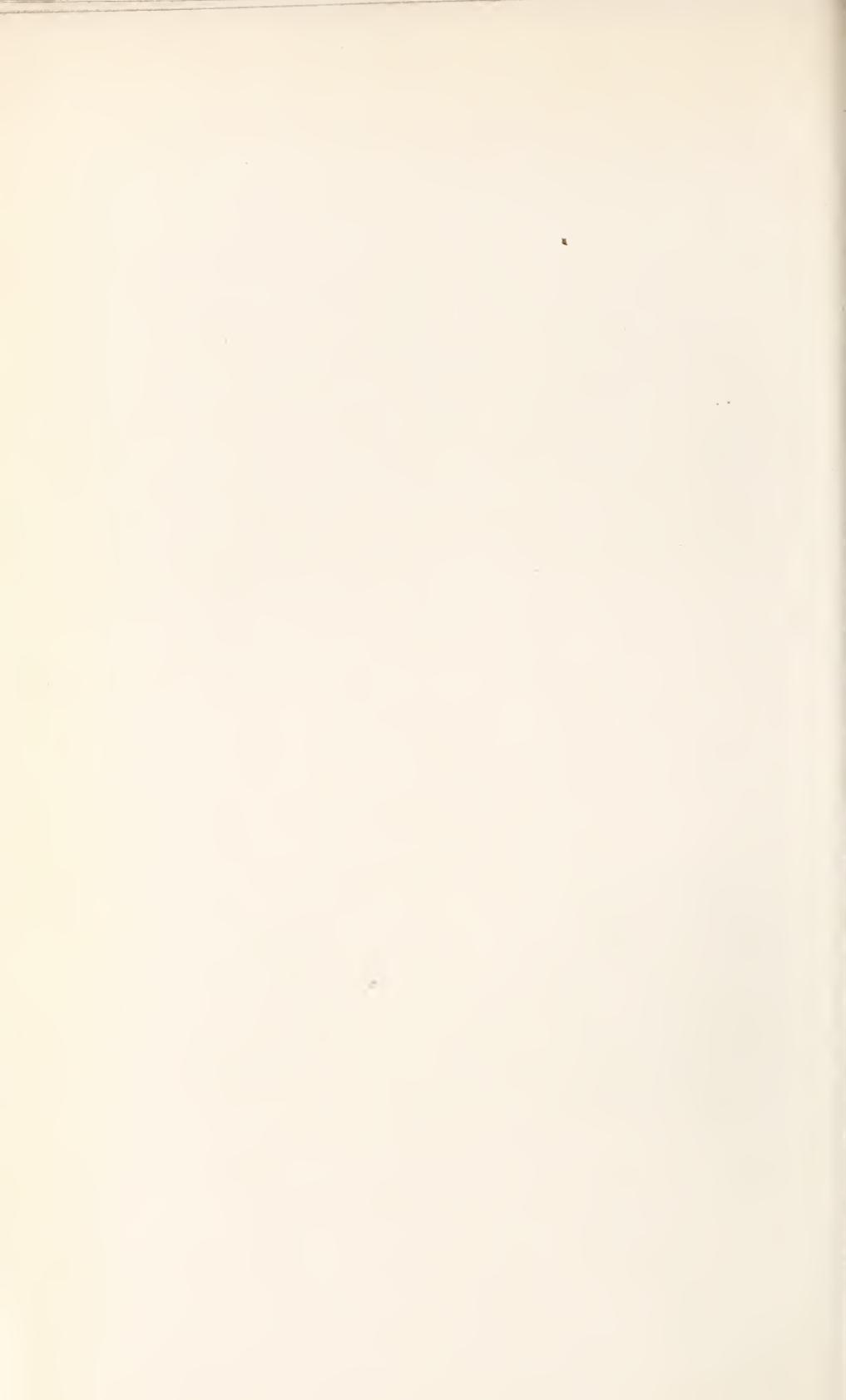
FIG. 3.—MIGNONETTE.



FIG. 4.—WHITE FORCING.

TYPICAL MATURE PLANTS.

(About one-fifth natural size.)



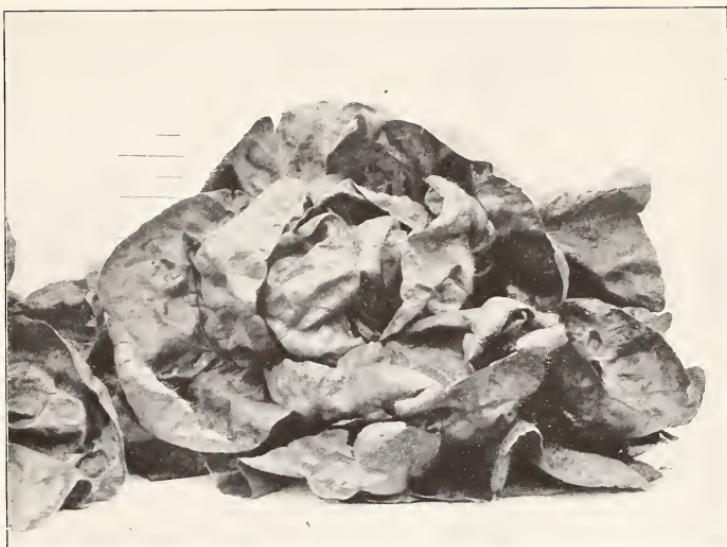


FIG. 1.—EARLIEST CUTTING.



FIG. 2.—CALIFORNIA CREAM BUTTER.

TYPICAL MATURE PLANTS.

(About one-fifth natural size.)

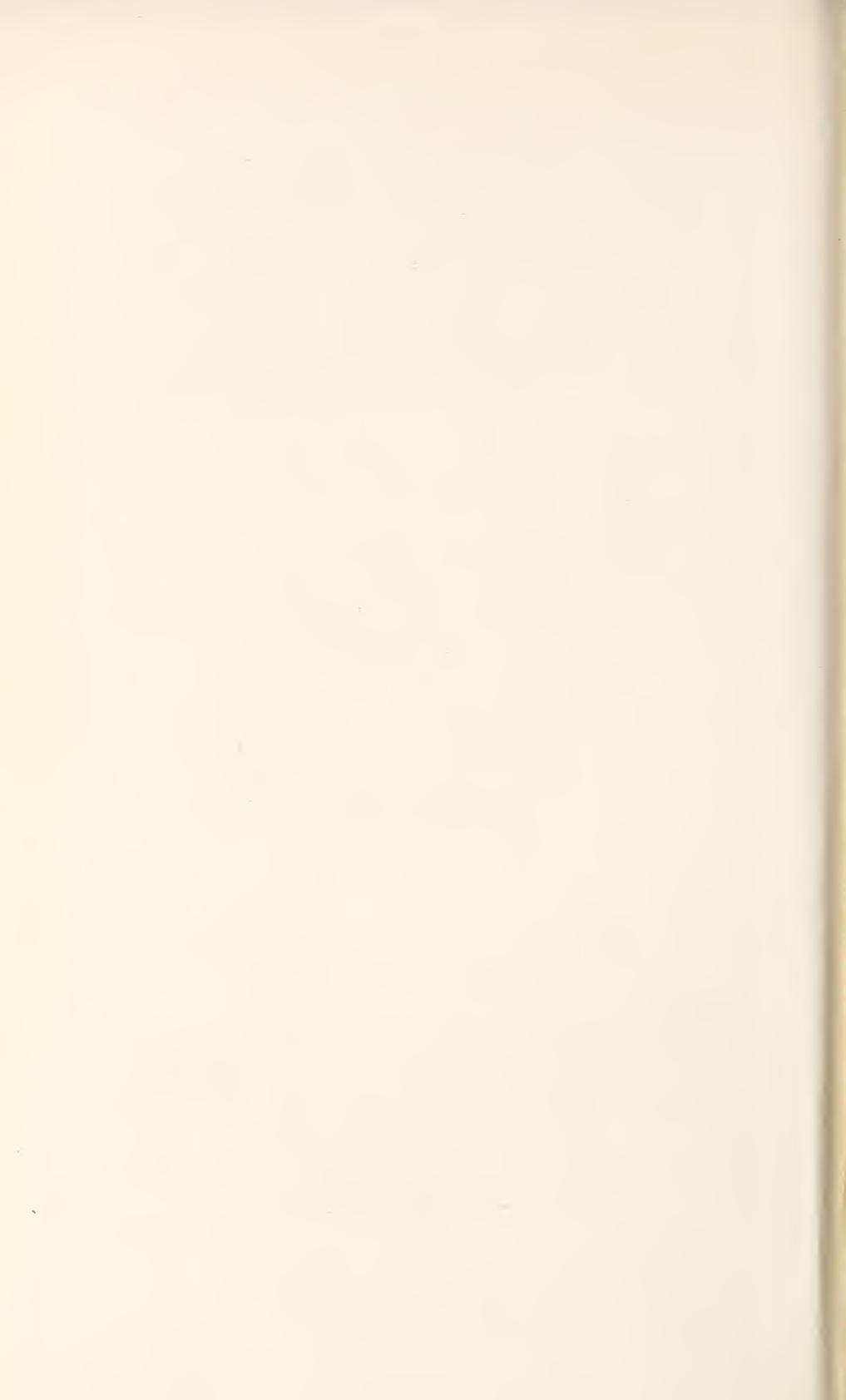




FIG. 1.—EMPEROR WILLIAM.



FIG. 2.—YELLOW WINTER.



FIG. 3.—DETROIT MARKET GARDENER'S FORCING.

TYPICAL MATURE PLANTS.

(About one-fifth natural size.)

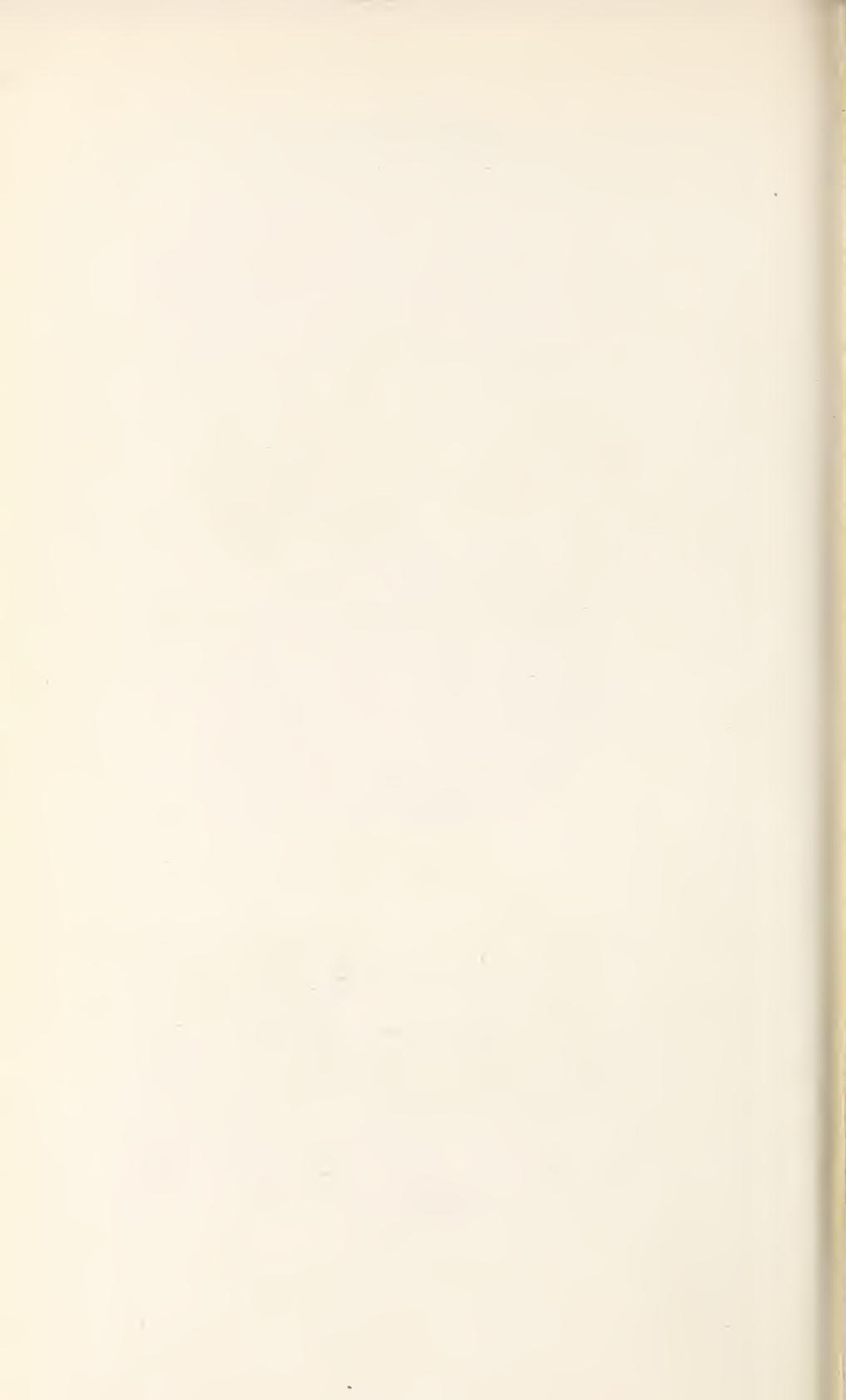




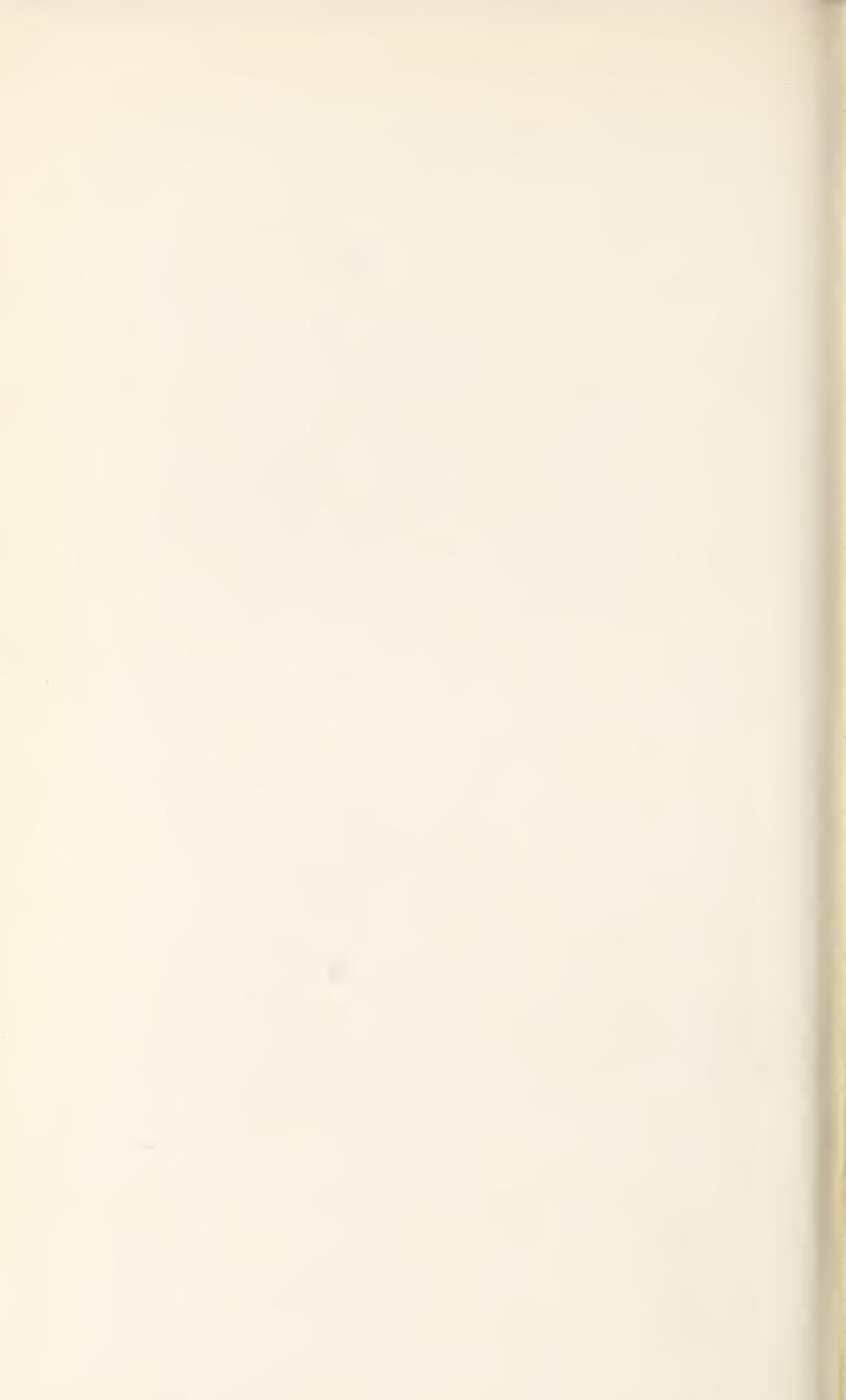
FIG. 1.—HUBBARD'S MARKET.



FIG. 2.—DEACON.

TYPICAL MATURE PLANTS.

(About one-fifth natural size.)



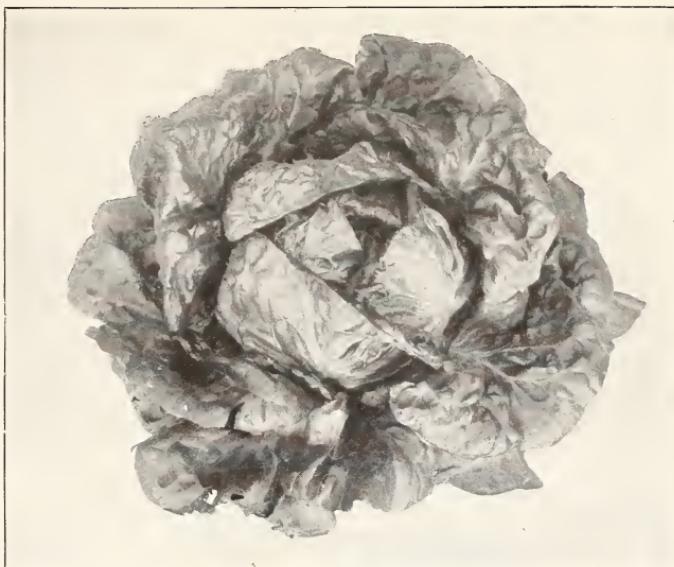


FIG. 1.—MAXIMUM (UPPER VIEW).



FIG. 2.—MAXIMUM (SIDE VIEW).

TYPICAL MATURE PLANTS.

(About one-fifth natural size.)

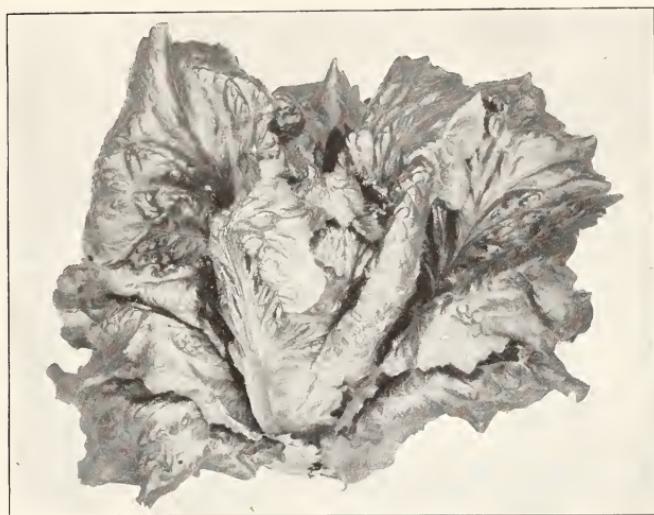


FIG. 1.—MALTA.

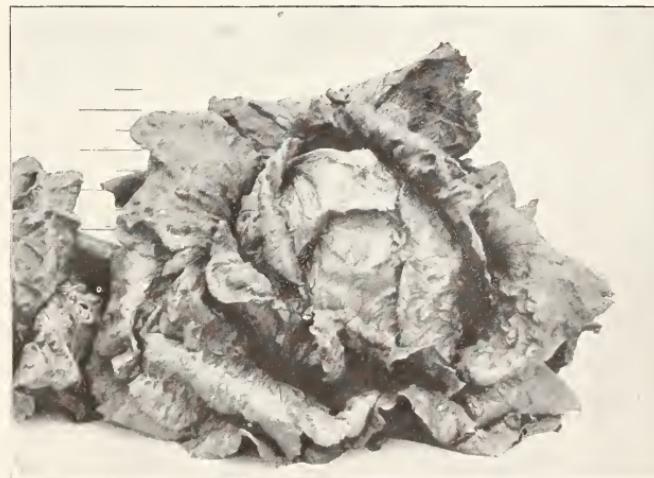


FIG. 2.—ITALIAN ICE.

TYPICAL MATURE PLANTS.

(About one-fifth natural size.)

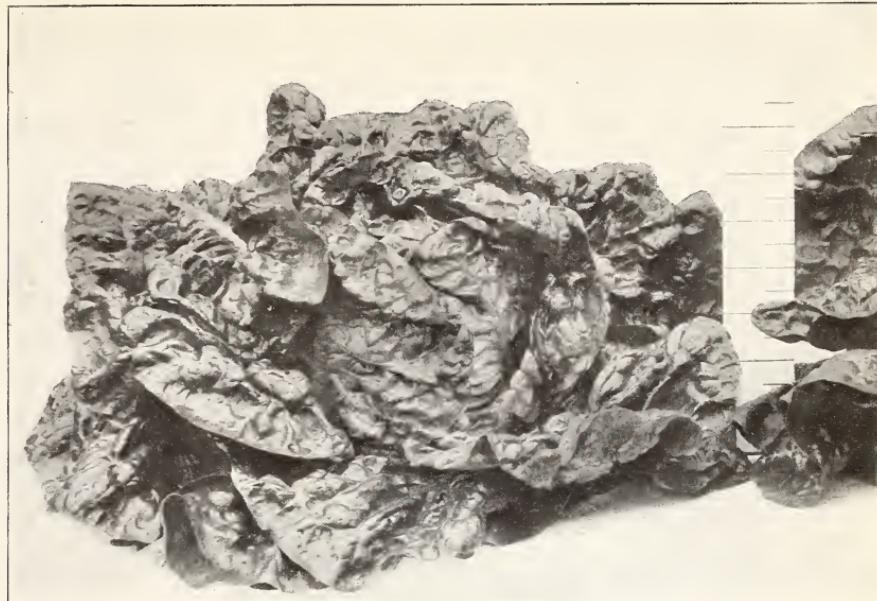


FIG. 1.—RED BESSON.



FIG. 2.—ASPARAGUS LOBED-LEAVED.

TYPICAL MATURE PLANTS.

(About one-fifth natural size.)



FIG. 1.—ASPARAGUS.



FIG. 2.—RED WINTER COS.
TYPICAL MATURE PLANTS.
(About one-fifth natural size.)

FIG. 1.—LANCASTER.



FIG. 2.—EXPRESS COS.

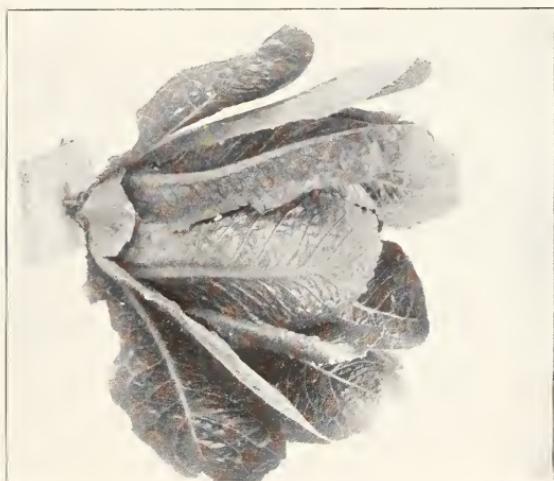


FIG. 3.—BALTIMORE OAK-LEAVED.

TYPICAL MATURE PLANTS.

(About one-fifth natural size.)

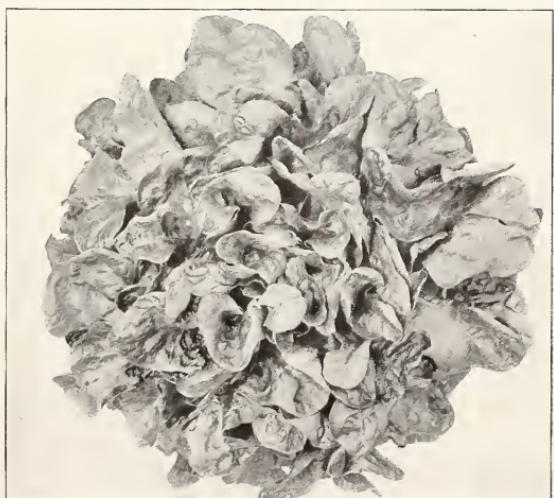




FIG. 1.—OAK-LEAVED.

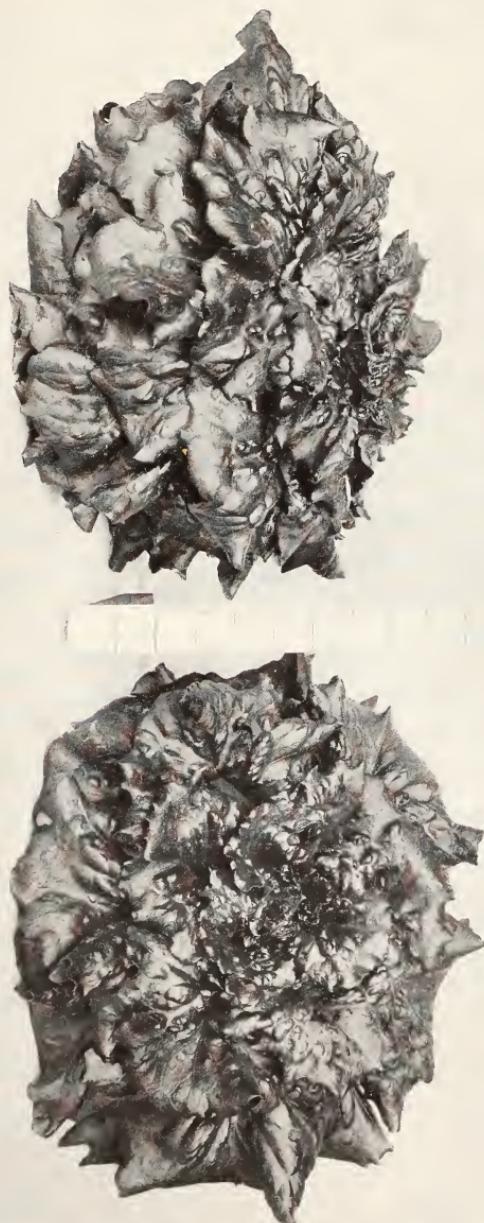


FIG. 2.—TOM THUMB.

TYPICAL MATURE PLANTS.
(About one-fifth natural size.)



FIG. 3.—REICHNER.



SUGAR LOAF.

TYPICAL MATURE PLANTS.

(About one-fifth natural size.)

FIG. 1.—HALF CENTURY.



FIG. 2.—SPECKLED DUTCH BUTTER

TYPICAL MATURE PLANTS.

(About one-fifth natural size.)



FIG. 3.—METTE'S FORCING.



FIG. 2.—METTE'S FORCING.

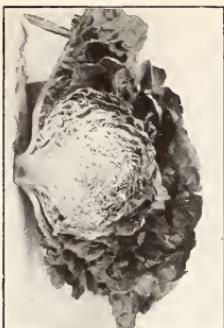


FIG. 1.—TOM THUMB.



FIG. 3.—PARIS WHITE COS.

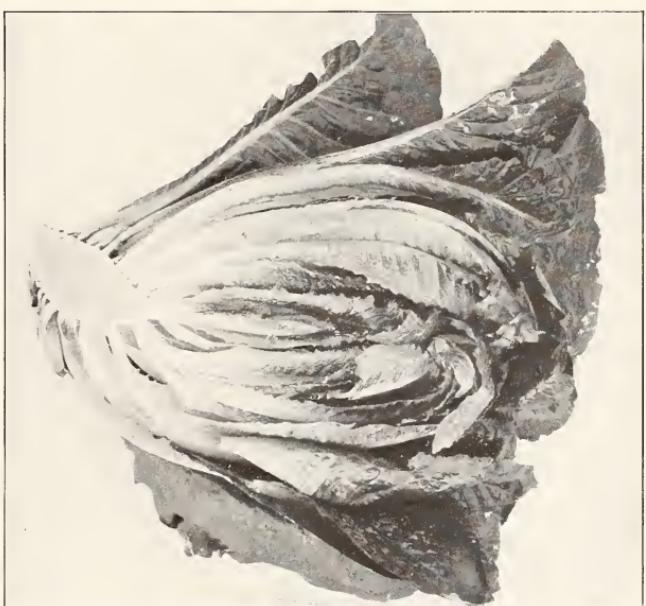


FIG. 4.—HARTFORD BRONZED HEAD.



FIG. 5.—LANCASTER.



TYPICAL MATURE PLANTS (LONGITUDINAL SECTIONS).
(About one-fifth natural size.)



FIG. 1.—SPECKLED DUTCH BUTTER.

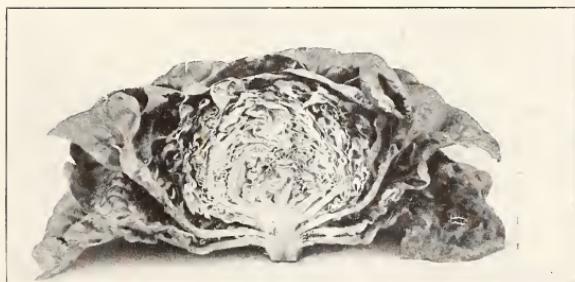


FIG. 2.—MATADOR.

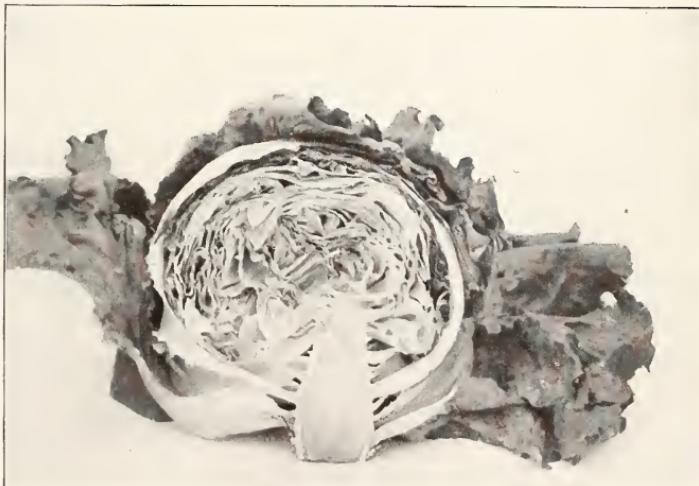


FIG. 3.—HANSON.

TYPICAL MATURE PLANTS (LONGITUDINAL SECTIONS).

(About one-fifth natural size.)



FIG. 1.—PRIZE HEAD.



FIG. 2.—WHITE STAR.

TYPICAL MATURE PLANTS (LONGITUDINAL SECTIONS).
(About one-fifth natural size.)



FIG. 1.—NANSEN.



FIG. 2.—TOMHANNOCK.



FIG. 3.—BIG BOSTON.



FIG. 4.—HANSON.



FIG. 5.—ALL SEASONS.



FIG. 6.—PASSION.

TYPICAL YOUNG PLANTS.

(About two-fifths natural size.)



FIG. 1.—BOSTON CURLED.



FIG. 2.—GREEN-FRINGED.



FIG. 3.—EARLIEST CUTTING.



FIG. 4.—SPECKLED DUTCH BUTTER.



FIG. 5.—TENNIS BALL BLACK-SEEDED.



FIG. 6.—DEACON.

TYPICAL OUTER LEAVES.

(About one-fourth natural size.)

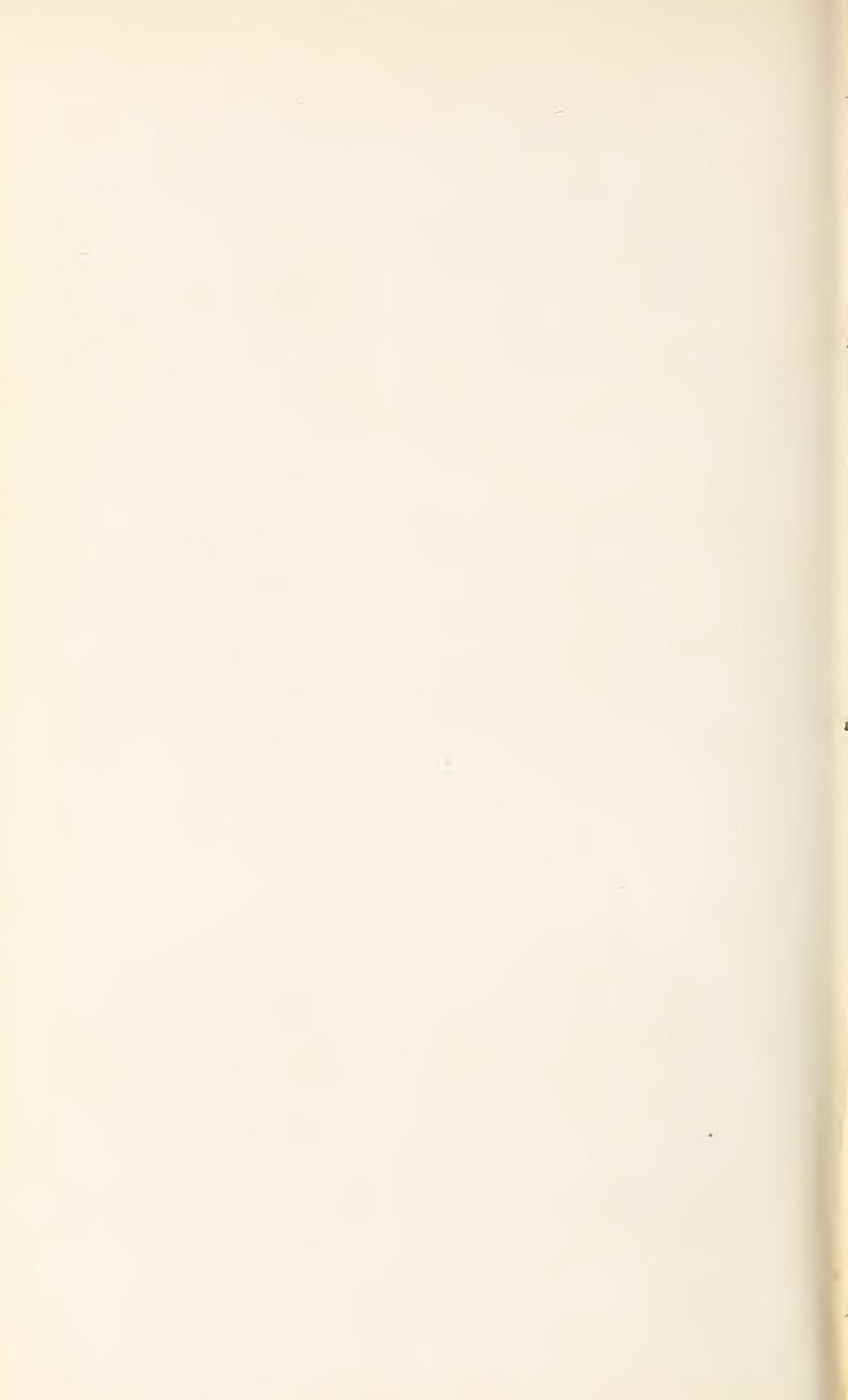




FIG. 1.—LANCASTER (BACK VIEW).



FIG. 2.—LANCASTER (FRONT VIEW).



FIG. 3.—OAK-LEAVED.



FIG. 4.—YELLOW WINTER.



FIG. 5.—BALTIMORE OAK-LEAVED.



FIG. 6.—BIG BOSTON.

TYPICAL OUTER LEAVES.

(About one-fourth natural size.)

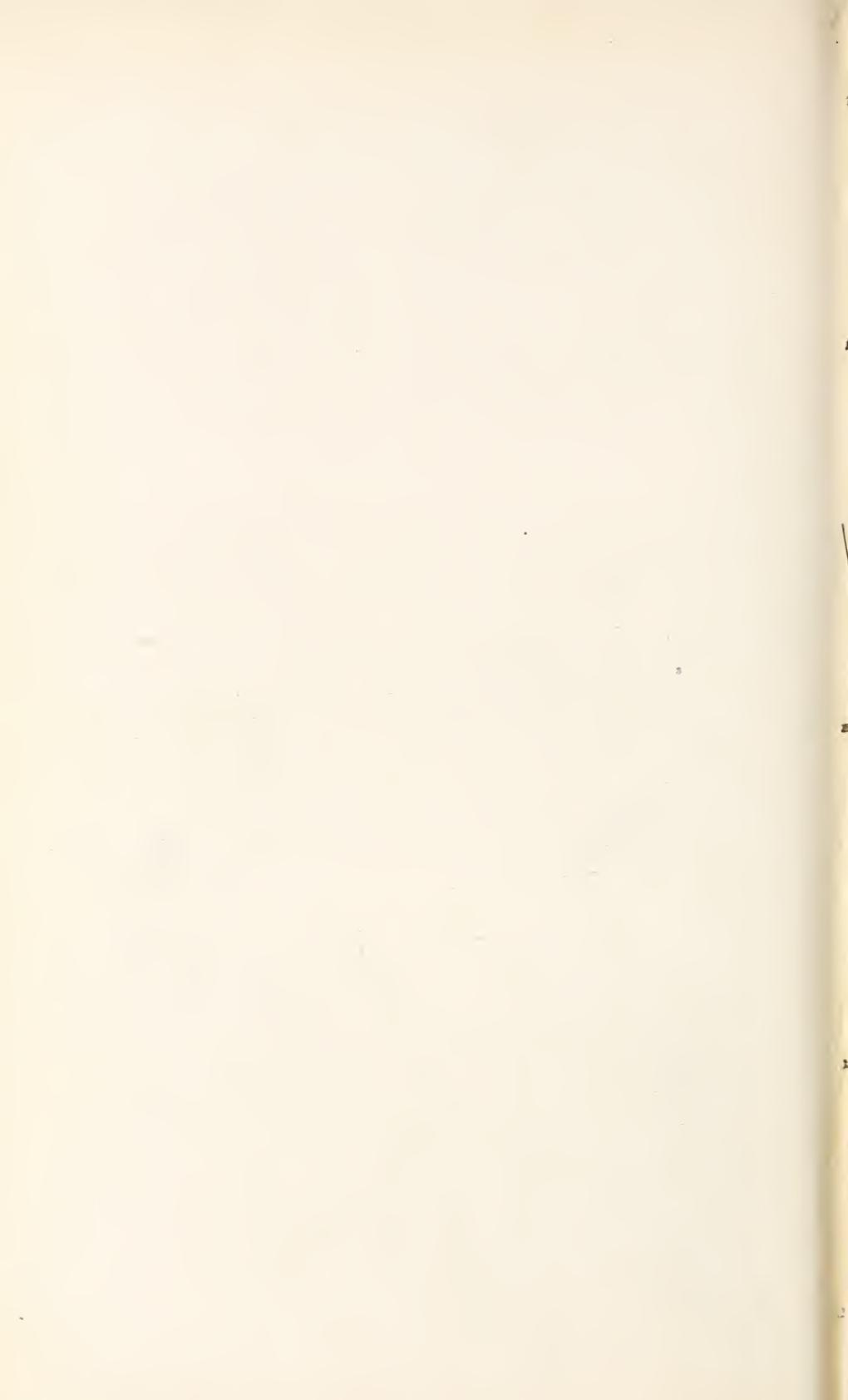


FIG. 1.—EARLY CURLED SIMPSON.



FIG. 2.—GIANT GLACIER.

TYPICAL OUTER LEAVES.

(About one-fifth natural size.)

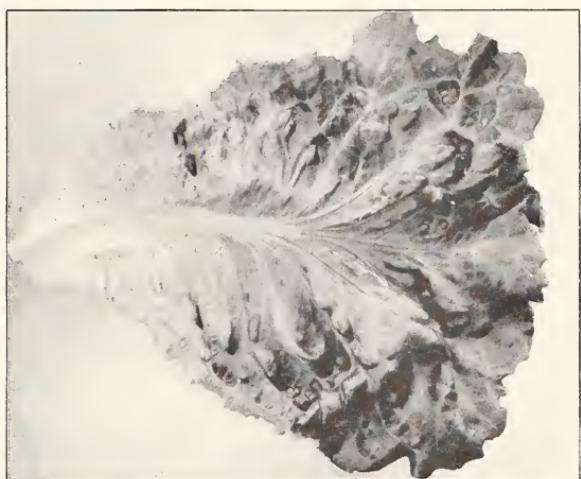


FIG. 3.—GRAND RAPIDS.

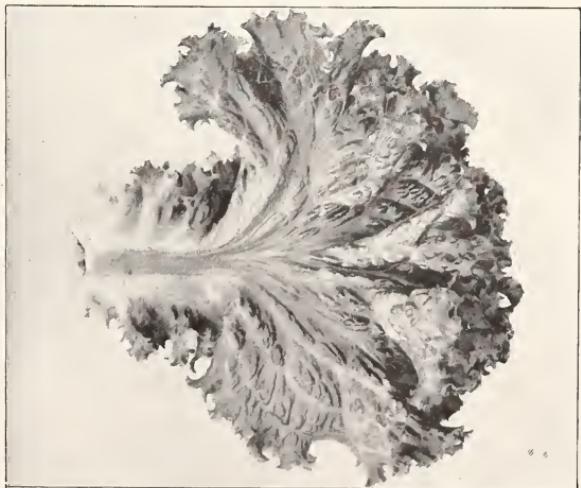


FIG. 1.—DENVER MARKET.

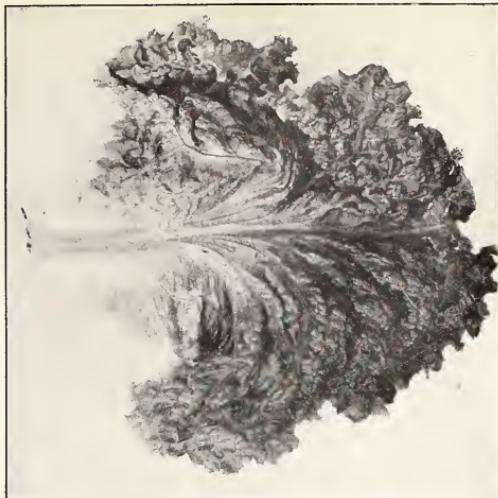
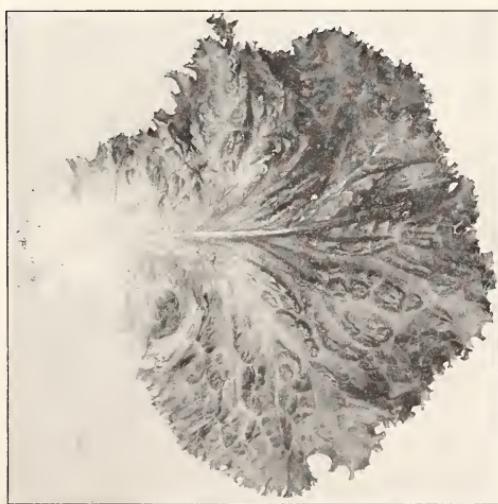


FIG. 2.—ASPARAGUS LOBED-LEAVED AND
EXPRESS COS.

TYPICAL OUTER LEAVES.
(About one-fourth natural size.)



FIG. 3.—HANSON.



1

2

3

4

5

6

FIG. 1.—ASPARAGUS.

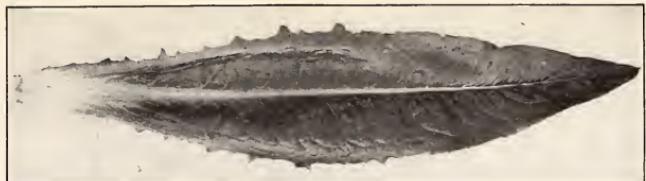


FIG. 2.—BATH COS.

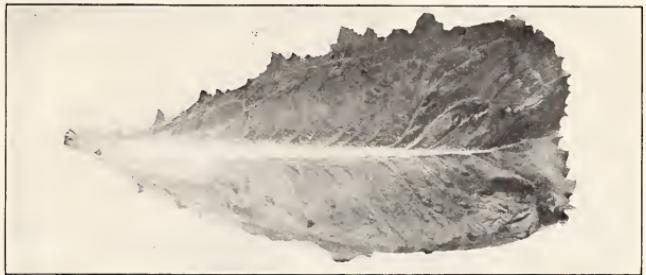


FIG. 3.—PARIS WHITE COS.

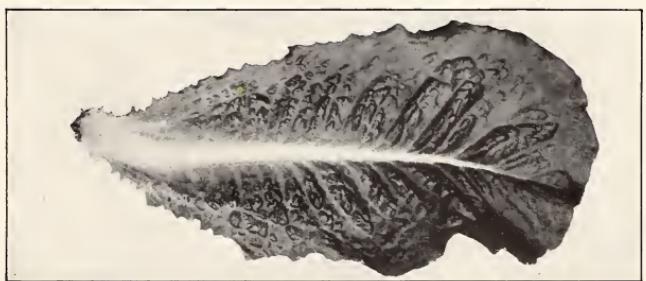
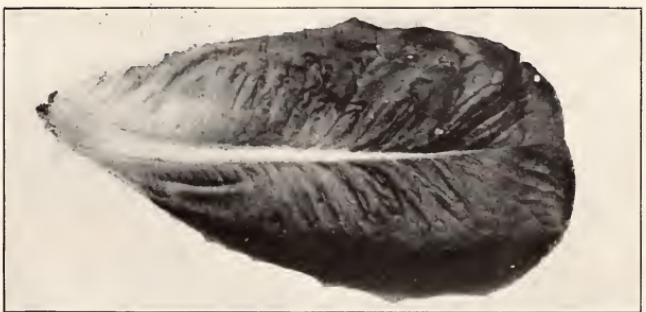


FIG. 4.—GIANT WHITE COS.



FIG. 5.—RED WINTER COS.



TYPICAL OUTER LEAVES.
(About one-fourth natural size.)

